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THE ILLUSTRATION OF PLINY'S *HISTORIA NATURALIS*: MANUSCRIPTS BEFORE 1430*

Lilian Armstrong

THE *Historia naturalis* of Pliny the Elder has been characterized by one historian of science as 'perhaps the most important single source extant for the history of ancient civilization'.¹ That it was also important for the history of the later Middle Ages can now be gathered from three hitherto unpublished illuminated manuscripts of the *Historia naturalis* from the Gothic period which are the subject of the following discussion. The sources and nature of the iconographic cycle in their miniatures are the primary concern of this study, but the historical and artistic characteristics of the manuscripts must also be explored in order to appreciate fully their significance.

Each of the newly discovered manuscripts is important for a different reason. The Escorial *Historia naturalis*,² decorated in Bologna about 1300, is the earliest known manuscript with a long series of historiated initials related to Pliny's text, and it is therefore fundamental for investigating the genesis of the iconographic cycle. A second manuscript, in the Biblioteca Nazionale in Turin,³ is of great interest for the history of artistic patronage. It was probably commissioned around 1410 by the famous bibliophile Jean, Duc de Berry, and its miniatures demonstrate the transmission of an Italian cycle of images to the French ducal court. The third copy of Pliny is a lavishly decorated manuscript now in the Biblioteca Palatina of Parma,⁴ a major new attribution to one of

* I wish to thank Wellesley College for grants from the Faculty Research Funds which helped to make possible this study; also my colleagues at Wellesley, Professors Miranda Marvin and Peter Fergusson, and members of the staff of the Warburg Institute, particularly Professor J. B. Trapp, Dr C. B. Schmitt and Dr M. Evans. I am especially indebted to Professor Liana Cheney, University of Lowell, to members of the staff of the Biblioteca Palatina, Parma and to Professor E. Riccomini.

¹ L. Thorndike, *A History of Magic and Experimental Science*, London 1923, I, pp. 42-43.

² I am grateful to Elizabeth Sears for having encouraged me to investigate this important manuscript. Unfortunately I have not been able to see the original.

El Escorial, Biblioteca Real de San Lorenzo del Escorial, MS R.I.5, on parchment, 405 × 280 mm, 218 fols, 2 col. text (P. Guillermo Antolín, *Catálogo de los Codices Latinos de la Real Biblioteca del Escorial*, Madrid 1910-23, III, pp. 451-52, and IV, p. 584; J. Domínguez Bordoná, *Manuscritos con pinturas*, Madrid 1933, II, p. 52, no. 1496). Some gatherings are missing which include Books XI, XX, XXV, and XXVI. Folio 1 has two historiated initials and marginal decoration. Initials with images are found at the beginning of Books I-X, XII-XIX, XXI, XXIII and XXVII-XXXVII; marginal images are found at the beginning of Books XVI and XXII.

³ Turin, Biblioteca Nazionale Universitaria, MSS I.1.24-I.1.25 (formerly lat. 465-66, I.VI.10-I.VI.11); on parchment, 360 × 225 mm, 219 fols, and 360 × 240 mm, 216 fols respectively; 2 col. text of 41 lines. MS I.1.24 has 26 miniatures; MS I.1.25 has 15; many folios have large illuminated initials and vine leaf motifs in the margins.

The Turin manuscript was damaged in the disastrous fire in the Library in 1904, and it has been interfoliated and rebound. Fewer miniatures in MS I.1.24 were damaged than in MS I.1.25; the greatest damage was done to miniatures in the external columns of text, and some are charred beyond recognition. Folios at the beginning of Books XXII and XXV are missing; blank spaces at the beginning of Books XXXV (fol. 192^v) and XXXVI (fol. 203^v) never received the intended miniatures.

⁴ Parma, Biblioteca Palatina, MS Parm. 1278 (H. H. I. 62), on parchment, in folio, 240 fols, 2 col. text. The manuscript is described in the handwritten *Catálogo degli manoscritti, Fondo Parmense*, at the Biblioteca Palatina. Folio 1 has a fully decorated border, two historiated initials, and a coat-of-arms at the *bas-de-page*: *argent a lion rampant azure*, surmounted by a red cardinal's hat. Each of the remaining 36 books is decorated with a historiated initial, and there are marginal decorations throughout the manuscript.

the most important early fifteenth-century Venetian miniaturists, Cristoforo Cortese. Its miniatures illustrate the fully developed iconographic cycle for the *Historia naturalis* which was followed with only minor variations throughout the fifteenth century.⁵ To this trio of recently found manuscripts must be added the only previously known late medieval copy of Pliny with miniatures, the manuscript illuminated for Pasquino Capelli at the Visconti court in 1389 by the miniaturist Fra Pietro da Pavia.⁶ Its fragmentary cycle provides important clues for the relationship between the Pliny cycle in Italy, and the unique appearance of the cycle in France in the Berry manuscript at the beginning of the fifteenth century. The miniatures of these Gothic manuscripts reveal that a scheme for decorating the *Historia naturalis* emerged in Bologna at the end of the thirteenth century; became greatly enriched in the stimulating artistic ambience of the Visconti court; was adopted at least once in France at the behest of a Valois prince related by marriage to the Visconti; and reached a definitive form by 1425 in Venice where it was to be perpetuated for a century in Renaissance manuscripts and early printed books.

It is necessary to recall the comprehensive scheme of Pliny's work when approaching the illustrated copies of the *Historia naturalis*. Book I is an index, and the text proper begins with Book II which is cosmological in content. Books III to VI are geographical; Book VII is anthropological; and Books VIII to XI are zoological, describing respectively animals, sea creatures, birds and insects. The long central portion of the *Historia naturalis*, Books XII to XXVII, is essentially botanical, with the earlier books emphasizing the description of plants, their cultivation and general usage, and then from Book XX onwards shifting to the more specifically medicinal uses of plants. The topic of medicine leads Pliny back to animals and their medicinal products in Books XXVIII and XXIX; to magic in Book XXX; and to medicine from water and from aquatic creatures in Books XXXI and XXXII. The last five books are geological and mineralogical. The discussion of bronze in Book XXXIV contains the famous chapters on ancient sculptors working in bronze. In Book XXXV pigments provide the opportunity to consider painters. The marble and other stones of Book XXXVI inspire descriptions of works of art in these materials. Finally, Book XXXVII is devoted to gems.

The scheme of illustration which emerges in the Gothic manuscripts of the *Historia naturalis* to be considered in this study has a few dominant images and many minor variations. The dominant images are landscapes for the geographical books; animal life for the zoological books; plant life and agricultural activities for the botanical books; physicians and herbalists for the medical books; and metal workers and artists for the concluding geological books. These principal images appear to have developed at two different periods. The first impulse of about 1300 produced the animals, plants, physicians and herbalists. The second, which probably occurred in the last quarter of the fourteenth century, developed the images of landscapes, agricultural activities, and

⁵ For the 15th-century versions, see L. Armstrong, 'The Illustration of Pliny's *Historia naturalis* in Venetian Manuscripts and Early Printed Books', in *Manuscripts in the Fifty Years after the Invention of Printing*, London 1983.

⁶ Milan, Biblioteca Ambrosiana, MS E. 24 inf., on parchment, 392 × 280 mm, 361 fols, 2 col. text (R. Cipriani, *Codici miniati dell'Ambrosiana*, Milan 1968, p. 234). The probable presence of the Capelli arms under those of Giovanni Bolognino Attendolo on

fol. 266^r was noted by E. Pellegrin ('Notes sur divers manuscrits latins des Bibliothèques de Milan', *Bulletin d'information de l'Institut de Recherche et d'Histoire des Textes*, VII, 1958, pp. 14–15). Pellegrin also identified the scribe as Armandus de Alemannia, who wrote a number of manuscripts for Capelli which were decorated by Pietro da Pavia (*La Bibliothèque des Visconti et des Sforza, Supplement*, Paris 1969, pp. 17–18).

artisans at work. The synthesis of the two groups of images had taken place by the last decade of the fourteenth century, and formed the basic cycle which was then repeated many times in the next century.

The visual sources for the images in the earliest illustrated copy of the *Historia naturalis*, and indeed for many images in the later copies, can be found in the illustrations of herbal and medical manuscripts executed in Italy. Pliny's text is heavily dependent on Greek medical writings. Such ancient medical texts dealt with diagnosis and treatment; the latter consisted of surgery and the application or ingestion of medicines, primarily herbal medicines. The texts were practical in aim, and illustrations of plants and of surgical practices enhanced their usefulness. Texts with illustrations of herbs and other substances used in making medicines, the *materia medica*, existed before the time of Pliny since he refers to them himself.⁷ Texts with illustrations of surgical and other medical practices are also known to have been compiled at least by the Hellenistic period.⁸ Although the text of Pliny draws upon these medical texts, there seems to have been no comparable effort to illustrate the *Historia naturalis* in antiquity.⁹ By the time it began to be illustrated at the end of the thirteenth century, there already existed a rich tradition of illustrated herbals and manuscripts of medical practices to which artists decorating a copy of Pliny could turn for inspiration.

Both the herbal and surgical traditions of medical illustration are important for understanding the illustrations of the *Historia naturalis* in the fourteenth and fifteenth centuries. By the thirteenth century the so-called 'illustrated herbal' was known in Italy through two main categories of manuscripts: illustrated copies of the *Materia medica* attributed to Dioscorides; and illustrated manuscripts of a compilation of texts attributed to Antonius Musa, Apuleius, Sextus Placidus and Dioscorides.¹⁰ On the other hand, by the thirteenth century manuscripts of medical practices were even more complex than the herbals because they included writings on anatomy and surgery by Arab and other Western physicians of the tenth to the twelfth centuries as well as Galen and other earlier authors.¹¹ The artists who illustrated Pliny's *Historia naturalis* at the beginning of the

⁷ *H. N.*, xxv, 2. Unless otherwise noted, references to the *Historia naturalis* in this paper will be to the English and Latin edition: Gaius Plinius Secundus, *Naturalis Historia* (Loeb Classical Library), transl. H. Rackham *et al.*, 10 vols, Cambridge, Mass. 1944–62.

⁸ K. Weitzman, *Ancient Book Illustration*, Cambridge, Mass. 1959, pp. 18–23. The bibliography on illustrated medical manuscripts is vast, and references to aspects of the tradition will be given throughout this paper. For illustrated diagnostic, anatomical and surgical manuscripts see L. MacKinney, *Medical Illustrations in Medieval Manuscripts*, London 1965; and among the earlier writers see P. Giacosa, *Magistri salernitani, Catalogo*, and *Atlante*, Turin 1901; and K. Sudhoff, *Ein Beitrag zur Geschichte der Anatomie*, Leipzig 1908, and *Beiträge zur Geschichte der Chirurgie im Mittelalter* (Studien zur Geschichte der Medizin, 10), Leipzig 1914. Important for the study of early medical manuscripts is A. Beccaria, *I codici di medicina del periodo presalernitano*, Rome 1956.

⁹ Rudolf Wittkower argued that the most popular ancient epitome of the *Historia naturalis*, the *Collectanea*

rerum memorabilium of Solinus, may have been illustrated in late antiquity, but no such claim has been made for the *Historia naturalis* itself ('Marvels of the East: A Study in the History of Monsters', this *Journal*, v, 1942, pp. 159–97).

I shall frequently use the words 'illustrate' and 'illustration' in this paper to distinguish images of recognizable natural phenomena from purely decorative motifs in the manuscripts of the *Historia naturalis*. The words do not imply that the images are as detailed 'scientific' illustrations as those in the early herbals.

¹⁰ Fundamental to the understanding of the origins of the illustrated herbal is C. Singer, 'The Herbal in Antiquity and Its Transmission to Later Ages', *Journal of Hellenic Studies*, xlvii, 1927, pp. 1–52. More recently see F. A. Baumann, *Das Erbario Carrarese und die Bildtradition des 'Tractatus de herbis'*, Bern 1972; M. Eupo, *L'erbario di Trento*, Trent 1978; and W. Blunt and S. Raphael, *The Illustrated Herbal*, London 1979.

¹¹ See n. 8 above.

fourteenth century must have known texts with both the herbal and the medical imagery; but, as will be shown, the herbal tradition was of greater importance to them.

THE BOLOGNESE PLINY IN THE ESCORIAL

The first known copy of Pliny with historiated initials related to the text appears to have been decorated in Bologna around 1300.¹² The frontispiece of this manuscript, which is in the Escorial, resembles a number of Bolognese manuscripts from the period 1290 to 1310 (Pl. 1a). A similar organization of figurative and floral motifs may be found, for example, in Bolognese secular manuscripts in Vienna, Rome and New Haven (Pl. 1b).¹³ The half-length figures in the remaining initials of the Escorial Pliny are probably by a different artist from that of the frontispiece, but are still Bolognese in character. They exhibit quite distinctly the flatness and linear quality associated with the Byzantine component in Bolognese illuminations around 1300. The figures are outlined by strong dark lines, while features such as eyebrows, noses and the edges of garments are accentuated with white

¹² See n. 2 above. The generally accepted number of extant manuscripts of the *Historia naturalis* is about two hundred, but there is no complete listing of these despite the vast literature on the text. There is also no published list of the decorated copies. I have been able to see, or to find published references to, about a hundred manuscripts; of these about half were written in the 15th century. Bibliography is contained in H. Le Bonniec, *Bibliographie de l'Histoire naturelle de Plin l'Ancien*, Paris 1946; and C. G. Nauert, Jr., 'Caius Plinius Secundus', in F. E. Cranz, ed., *Catalogus Translationum et Commentariorum: Medieval and Renaissance Latin Translations and Commentaries*, iv, Washington, D.C. 1980, pp. 297–422 (see p. 317, n. 20 on the absence of a complete listing of manuscripts). A philological outline of the classes of texts which provides references to important manuscripts is found in N. I. Herescu, *Bibliographie de la littérature latine*, Paris 1943, pp. 329–33. The various 19th- and 20th-century critical editions also contain references to medieval copies when they are important for philological reasons. Most recent is the Latin and French edition: Plinius Maior, *Historia Naturalis (Histoire naturelle)*, Collection G. Budé, Paris 1950–77.

To my knowledge, only three 12th-century manuscripts of the *Historia naturalis* contain significant figural decoration, and in these manuscripts the subjects are restricted to presentation scenes and a very few historiated initials of Christian content not related to the text. The most elaborate of these was illuminated by a Danish artist, Petrus de Slaglosia (Florence, Biblioteca Laurenziana, MS Plut. 82, 1–Plut. 82, 2). It contains a full-page presentation scene with Pliny, the Emperor Titus, and a small figure of the artist (MS Plut. 82, 1, fol. 2^v; illustrated in colour in G. Volpe, L. Volpicelli, et al., *La vita medioevale italiana nella miniatura*, Rome 1960). Four additional historiated initials in this volume are: fol. 3^r, *Tree of Jesse*; fol. 45^v, *Dream of Jacob* (?); fol. 141^v,

Christ in Majesty; and fol. 147^v, *Nativity*. The manuscript was acquired from a Dominican monastery at Lübeck by Cosimo de' Medici in negotiations which dragged on from 1423 to 1439 (F. de Benedetto, 'Il Plinio Laurenziano proviene veramente da Lubecca', *Studi classici in onore di Quintino Cataudella*, Catania 1972, III, pp. 437–45).

The two other 12th-century manuscripts also have presentation scenes. They are an English or Norman manuscript at Le Mans (Bibliothèque Municipale, MS 263, fol. 19^v; illustrated in H. Swarzenski, *Monuments of Romanesque Art*, 2nd edn, London 1967, pl. 129, fig. 293); and a German manuscript in Vienna (Nationalbibliothek, Cod. 9, fol. 1^r; see H. J. Hermann, *Beschreibendes Verzeichnis der illuminierten Handschriften in Österreich*, VIII, vol. II, *Die deutschen romanischen Handschriften*, Leipzig 1926, pl. IV).

¹³ For a recent listing of bibliography on Bolognese manuscript illumination see G. Mariani Canova, *Miniature dell'Italia settentrionale nella Fondazione Cini*, Vicenza 1978, pp. 1–2, n. 1. For the specific comparisons mentioned see Hermann, op. cit. n. 12 above, vol. v, *Die italienischen Handschriften des Dugento und Trecento*, part 1, *Bis zur Mitte des XIV. Jahrhunderts*, Leipzig 1928, n. 67 and pls xxxviii, 2; xxxix; and xli (Vienna, Nationalbibliothek, Cod. 2256, Portius Azo, *Summa in codicis Justinianei*, fols 71^v, 1^r, and 123^v, Bolognese, early 14th century); G. Carbonelli, *Commenti sopra alcune miniature e pitture italiane a soggetto medico*, Rome 1918, pl. III (Vatican, Biblioteca Apostolica, MS Urb. lat. 240, fol. 283^r, Avicenna, *Canon*, North Italian, 14th century, [human figures perhaps not Italian]); and M. E. Stanton, 'The Codex Paneth', *Yale University Library Gazette*, xxx, no. 1, July 1955, illus. opp. p. 22 (New Haven, Yale University Medical Historical Library, MS 28, Codex Paneth, *Medical Compendium*, Bolognese, 1300–26).

lines (Pl. 3a, b). The costumes and gestures of the figures can also be found in other Bolognese manuscripts of the period.¹⁴

The iconographic scheme of the historiated initials in the Escorial Pliny is composed of images which fall into three principal groups: animals, plants and half-length figures of men, some of them with attributes. The animals, such as the elephant for Book VIII (Pl. 2a) and the birds for Book X, appear at the beginning of the zoological books. Initials with one to three tiny trees begin many of the botanical books, that is Books XIII to XV, XVII and XXIII (Pl. 4b), while low-growing plants and flowers initiate Books XVI, XVIII and XXI. Half-length figures of men are painted in the initials of several of the earliest books, and again in the last third of the volume for Books XXVII (Pl. 3b) to XXX, XXXII, XXXIV and XXXVII.

The isolated plants and trees (Pl. 4b), the figures holding or collecting plants (Pl. 3a, b) and a man with a mortar and pestle, provide the clearest clues to the visual sources. All of these types appear in the standard repertoire of illustrated herbal and medical manuscripts. It is therefore extremely probable that such manuscripts were available in Bologna around 1300.

Until the thirteenth century Salerno was the best known centre for writers and practitioners of medicine in Italy, and a number of illustrated herbal manuscripts based on late antique prototypes have been associated with Salerno or more generally with southern Italy.¹⁵ This group of manuscripts includes a tenth-century Latin version of the Dioscorides *De materia medica* and at least six copies of the Musa/Apuleius/Dioscorides Latin herbal ranging in date from the ninth to the thirteenth centuries.¹⁶ By the second half of the thirteenth century Bologna had replaced Salerno as the most important centre for the study of medicine; and by the early fourteenth century Bolognese artists had illustrated medical compendia such as the Codex Paneth at Yale University (Pl. 1b).¹⁷ It

¹⁴ G. Castelfranco, 'I codici miniati di San Domenico di Gubbio', *Bollettino d'arte*, VIII, 1929, figs 3, 7, 9, 14 (dated 1298), 16, 21, 26, 28; and 'Contribuiti alla storia della miniatura bolognese del "200"', *Bologna: Rivista del comune*, XXII, no. 7, 1935, p. 22 and figs 20, 22, and 23 (dated 1303); and A. Melnikas, *The Corpus of the Miniatures in the Manuscripts of Decretum Gratiani*, Rome 1975, passim, especially Escorial, MS c. 1. 2; Biblioteca Vaticana, MSS Vat. lat. 1371 and 1375.

¹⁵ H. Rashdall, *The Universities of Europe in the Middle Ages*, ed. by F. M. Powicke and A. B. Emden, Oxford 1936, I, pp. 75–86.

The importance of antique prototypes for illustrations of plants, animals, and scenes of medical practice is brought out by O. Pächt, 'Early Italian Nature Studies and the Early Calendar Landscape', this *Journal*, XIII, 1950, pp. 13–47.

¹⁶ The Latin Dioscorides is: Munich, Bayerische Staatsbibliothek, Cod. lat. 337, 10th century (Beccaria, op. cit. n. 8 above, pp. 222–23, no. 60; MacKinney, op. cit. n. 8 above, pp. 42–43, 153–54, and figs 35–37).

The manuscripts in the Musa/Apuleius/Dioscorides group are: Florence, Biblioteca Laurenziana, MS Plut. 73.41, 9th century (Beccaria, op. cit. n. 8 above, pp. 281–84, no. 89); Lucca, Biblioteca Governativa, MS 296, 11th century (Beccaria, pp. 285–88, no. 91; L. Cogliato Arano, *Tacuinum Sanitatis*, Milan 1973, p. 33,

and figs 30–32); formerly Turin, Biblioteca Nazionale, MS K. IV. 3, late 11th century (Beccaria, pp. 332–33, no. 110; and Giacosa, op. cit. n. 8 above, pp. 358–59, no. 5, and pls 14–16); Vatican, Biblioteca Apostolica, MS Barb. lat. 160 (IX.29), 11th century (Beccaria, pp. 324–31, no. 108; L. MacKinney, 'Medical Illustrations in Medieval Manuscripts of the Vatican Library', *Manuscripta*, III, 1959, p. 6; E. Pellegrin, *Les manuscrits classiques latins de la Bibliothèque Vaticane*, I, 1975, pp. 189–91); Vienna, Nationalbibliothek, Cod. 93, 13th century (Hermann, op. cit. n. 12 above, vol. 1, *Die fruhmittelalterlichen Handschriften des Abendlandes*, Leipzig 1923, pp. 8–38; and reproduced in facsimile with accompanying commentary volume: Vienna, Nationalbibliothek, *Medicina antiqua* [Codex Vindobonensis, 93], Graz 1971–72); and Florence, Biblioteca Laurenziana, MS Plut. 73.16, 13th century (Carbonelli, op. cit. n. 13 above, p. 56, and pls XXI–XXIII; MacKinney, op. cit. n. 8 above, pp. 38–41, 45–46 125–26, and figs 28–30, and 40; and the commentary volume of the *Medicina antiqua* [Codex Vindobonensis, 93]).

¹⁷ Rashdall, op. cit. n. 15 above, pp. 233–47.

K. Sudhoff, 'Codex Fritz Paneth', *Archiv für Geschichte der Mathematik, der Naturwissenschaften und der Technik*, XII, 1929, pp. 2–32; and Stanton, op. cit. n. 13 above, pp. 22–24.

seems highly likely that at least one illustrated southern Italian manuscript had found its way to Bologna.

The most elaborately illustrated of all southern Italian medical manuscripts is Codex 93 in the Nationalbibliothek, Vienna.¹⁸ It contains many illustrations of isolated plants, animals, birds and insects (Pls 2c, 3c). The counterparts of these illustrations in the Bolognese Pliny in the Escorial are the elephant of Book VIII (Pl. 2a), the birds of Book x, the trees and plants of Books XIII to XVIII, the flowers of Book XXI, and the olive tree with a vine encircling it of Book XXIII (Pl. 4b). The animals and plants of the *Historia naturalis* initials are greatly reduced in size and highly schematized, but already in thirteenth-century herbals gross distortions of the flora and fauna had occurred.

In addition to isolated plants and animals, the Vienna Codex 93 and other manuscripts of this group show physicians instructing students and treating patients; herbalists collecting and sorting herbs; and preparing medicines by grinding materials with a mortar and pestle (Pls 3c, 4a). These images, which are unframed in the Vienna Codex 93 and its related manuscripts, passed into the historiated initials, framed miniatures and marginal decoration of fourteenth-century medical compendia and into the Escorial Pliny. In the Bolognese Codex Paneth of about 1300–26, which is chiefly a collection of diagnostic, anatomical and surgical texts, an initial shows both master and pupils holding plants; a semi-nude figure in the margin holds up a plant as well (Pl. 1b).¹⁹ In the Escorial Pliny figures engaged in similar activities illustrate Books XXII (Pl. 3a), XXVII (Pl. 3b), XXVIII, XXIX and XXXIII. They show respectively a herbalist collecting flowering plants, a man inspecting plants, a man grasping the testicles of a partially visible quadruped, an apothecary grinding herbs, and a half-length figure gesturing as if lecturing.

Although virtually all the types of images in the Escorial Pliny can be found in earlier Italian medical and herbal manuscripts such as the Vienna Codex 93, the artist of the Escorial manuscript made specific adaptations to the text of the *Historia naturalis*. The tree of Book XVII is perceptibly more crooked than those of other initials, and this peculiarity is preserved in later Pliny manuscripts. It is probably an allusion to the process of grafting which Pliny describes in this book. Likewise the picture of a vine wound around a tree is a reference to Pliny's description in Book XXIII of various trees which support vines (Pl. 4b).²⁰

Three distinctive images in the Escorial Pliny deserve further mention because they demonstrate knowledge of the text of the *Historia naturalis* and because their perpetuation

¹⁸ See n. 16 above.

¹⁹ Seated and standing 'portraits' of famous doctors of antiquity precede the 6th-century Greek Dioscorides of Juliana Anicia in Vienna (Nationalbibliothek, Cod. Med. gr. 1, fols 2^v, 3^v, 4^v, and 5^v; H. Gerstinger, *Der Wiener Dioskurides* [Codex Vindobonensis Med. gr. 1], facsimile edn, Graz 1970). There are portraits of Hippocrates and Apuleius Platonicus in the 13th-century Vienna Codex 93, on folios 2 and 119. In the same manuscript physicians or their assistants are shown grinding herbs on folios 39^r, 46^r, 47^r, 48^r, 64^v, 66^v, etc., and there are many images of physicians treating patients. The appearance of herb-gatherers both in

Byzantine and in western manuscripts dating before 1300 has been pointed out by O. Pächt (op. cit. n. 15 above, p. 33). Michael Evans has noted that the image of *medicina* as a physician holding a book or herbs has antique models, and that the attribute of a urine flask was established by the middle of the 12th century ('Personifications of the *Artes* from Martianus Capella up to the End of the Fourteenth Century', unpublished Ph.D. dissertation, Warburg Institute, University of London, 1970, pp. 121, 160, and 193). For the Codex Paneth see nn. 13 and 17 above.

²⁰ For 15th-century examples of the vine and tree motif see Armstrong, op. cit. n. 5 above.

in late Pliny manuscripts provides strong evidence for the mode of transmission of the cycle. Books XIX and XXXI open with initials whose image is more impressive conceptually than visually. Waving white lines are painted as if running from clouds above to the ground below. They apparently represent falling rain or snow since storms are mentioned at the end of Book XVIII and at the beginning of Book XIX, and Book XXXI is concerned with the medicinal properties of water. Attempts to illustrate the process of precipitation are exceptional at this early date. Even a miniature of the first decade of the fifteenth century has been described by Millard Meiss as 'the first real snowstorm in the history of painting'.²¹ That these tiny images are indeed meant to show some form of rain or snow is confirmed by the repetition of the motif for one of the same books, Book XXXI, in the Pliny illuminated by Cristoforo Cortese about 1425 (see below).

The second of the unusual initials is related to Pliny's effort to distinguish between magic and medicine in Book XXX.²² The Bolognese artist has painted at the beginning of this book a pair of half-length figures who wear curious pointed hats in contrast to the simpler costumes of the physicians and herbalists of the other initials. Since later artists often clearly used magicians at work to decorate this book (Pls 10d, 11d), it seems probable that the Escorial figures are intended to be *magi*.

Finally, Book XXXVII of the Escorial Pliny is illustrated with a half-length figure of a man inspecting gems. The activities of showing or selling gems become standard for Book XXXVII in the Pliny cycle, and may also have been derived from an illustration in a medical compendium. The Bolognese Codex Paneth mentioned earlier introduces a 'liber de virtutibus duodecim gemmarum, sive tredicem lapidem' with a king holding a sceptre and a large green gem.²³ The two contemporary miniatures may thus derive from a common source in the medical tradition.

The formal features of the Escorial Pliny confirm that it was painted in Bologna, and this centre is one in which the creation of an iconographic cycle for the *Historia naturalis* would certainly have been logical. The text is clearly one which would have been of interest to a patron familiar with the teaching of medicine in Bologna around 1300. The cycle may even have been invented for the Escorial manuscript itself, since the decorating of such an imposing volume was certainly a major commission. The patron²⁴ or his adviser must have known some illustrated herbal such as Vienna Codex 93, and he must have been familiar with the text of *Historia naturalis*. The artist would have used the former for visual prototypes of certain animals and plants, for physicians, herbalists, and perhaps the man inspecting gems. Similar images existed in a variety of sources outside the medical tradition, but the important point is that virtually all the images transferred to the earliest illustrated Pliny had already been collected by the thirteenth century in the illustrated herbal. Apart from such a visual source, the artist would need to have been instructed which book of the *Historia naturalis* required an elephant, birds, a crooked tree, flowers, a vine wound around a tree, a physician or a magician. The result is formally homogeneous and iconographically consistent. Furthermore, the cycle must have been perceived as appropriate and appealing to subsequent north Italian patrons since specific

²¹ M. Meiss, 'The First Fully Decorated Decameron', *Essays in the History of Art Presented to Rudolf Wittkower*, London 1967, p. 61, and fig. 14.

²² Thorndike, op. cit. n. 1 above, pp. 45–70.

²³ p. 1197.

²⁴ The early provenance of the Escorial Pliny is not known. In the 16th century the manuscript belonged to the Spanish humanist Jeronimo Zurita y Costo (1512–80) who inscribed it at the beginning and end: HIE. SURITE.

images of the new cycle are found repeatedly in many later illustrated copies of the *Historia naturalis*.

THE AMBROSIANA PLINY BY FRA PIETRO DA PAVIA

The Biblioteca Ambrosiana in Milan possesses a sumptuously decorated Pliny illuminated by Fra Pietro da Pavia in 1389 for Pasquino Capelli, secretary to Giangaleazzo Visconti, Duke of Milan.²⁵ To date this manuscript has been the single known late medieval copy of the *Historia naturalis* with a series of initials and marginal decorations related to the text. Its miniatures have therefore been discussed only as examples of late fourteenth-century naturalism.²⁶ The Ambrosiana Pliny also holds an important position in the study of the iconographic cycle developed for the *Historia naturalis*. Some of its miniatures show the continuity of a visual tradition in Italy from the Bolognese Pliny of about 1300 to the Pliny illuminated by Cristoforo Cortese about 1425. Other innovative miniatures which subsequently become a regular part of the cycle reveal a shift from the depiction of a natural phenomenon itself to the activity associated with the plant or animal described by Pliny. Finally, several of its images provide evidence that the French Pliny of about 1410 now in Turin must have depended on an Italian prototype.

The closest analogies between the images in the Ambrosiana Pliny by Pietro da Pavia and those in the Bolognese Pliny in the Escorial occur in the botanical and medical books. The trees in the initials of Books XIII, XVI (Pl. 5a) and XVII, and those in the margin at the beginning of Book XV²⁷ resemble those of Books XIII to XVII and Book XXIII of the Escorial Pliny (Pl. 4b). The oak tree is among the first species discussed by Pliny in Book XVI on forest trees, and Pietro da Pavia emphasizes the distinctive shapes of oak leaves and acorns in the single spreading tree of his miniature for this book.

The herbalists and physicians of Books XXII (Pl. 5b),²⁸ XXIII, XXIV and XXVI also resemble their counterparts in the Escorial Pliny (Pl. 3b). The herbalist of Book XXII in the Ambrosiana Pliny sits holding up a plant complete with roots in a pose reminiscent of the earlier Pliny. The similarities between these images suggest that for these books Pietro da Pavia had available as a model an earlier illustrated Pliny manuscript like the Bolognese one.

Nine of the books in the Ambrosiana Pliny have only decorative motifs in the initials, and four others have significant images primarily in the margins, such as the birds of Book X and the insects of Book XI.²⁹ This absence of historiated initials and the heterogeneous placement of other motifs suggest that the model from which Pietro da Pavia was working was incomplete.

The initials in the Ambrosiana Pliny which show activities associated with subjects, rather than the plant or animal itself, are among the most powerful compositions in the

²⁵ See n. 6 above.

²⁶ For the style of the Ambrosiana miniatures see P. Toesca, 'Di alcuni miniatori lombardi della fine del Trecento', *L'arte*, x, 1907, pp. 185–96, and for the border decorations see J. Treuherz, 'The Border Decorations of Milanese Manuscripts, 1350–1420', *Arte lombarda*, xvii, no. 1, 1972, pp. 71–82, esp. pp. 76–77, and figs 14, 21.

²⁷ L. Cogliati Arano, *Miniature lombarde*, Milan 1970, figs 282 (fol. 147^r, Book xv) and 283 (fol. 282^r, Book xvii).

²⁸ Ibid., fig. 280 (fol. 223^r, Book xxii).

²⁹ The following books lack images related to the text: Books III, IV, V, VI, VII, XXV, XXVII, XXIX(?), XXX. The significant images appear in the margins rather than in the initials for Books X, XI, XII, XV. For the insects of Book XI see P. Toesca, *La pittura e la miniatura nella Lombardia* (Milan 1912), rev. edn, Turin 1966, fig. 271 (fol. 116^r).

manuscript, and may be considered innovations by Pietro da Pavia himself. Included in this group are a man fishing for Book ix on sea creatures; a wine steward for Book xiv on the vintage; a man sowing grain and a woman carding (Pl. 6b) for the agricultural Books xviii and xix; a miner digging gold at the beginning of Book xxxiii on precious metals; the monk Pietro da Pavia illuminating a manuscript for Book xxxv on painting; and a stoneworker attacking a slab of marble with mallet and chisel in the initial of Book xxxvi.³⁰

All these images of occupations are new to the Pliny cycle, although once introduced they occur frequently in fifteenth-century manuscripts and hand-decorated printed editions of the *Historia naturalis*. Since Pietro da Pavia was probably working from an incomplete prototype, he doubtless turned to sources other than an earlier Pliny. The fisherman, vintner and farmer are all types normally found in religious manuscripts with calendars illustrated by the Labours of the Months, and they are also found in the *Tacuinum sanitatis* manuscripts discussed below.³¹ The artist illuminating a manuscript is also found in a variety of religious and secular texts before 1389.³² The miner can be found in the herbal tradition, and the stoneworker resembles closely the sculptor in the mid-fourteenth-century marble relief by Andrea Pisano on the Campanile of the Cathedral in Florence.³³ Thus the rich artistic ambience of the Visconti court ensured a wide variety of models for the artist which he adapted inventively to the text of the *Historia naturalis*.³⁴

Finally there are two distinctive miniatures in the Ambrosiana Pliny of 1389 whose reappearance shortly thereafter in the French Pliny now in Turin suggests that an Italian cycle was the basis for the French artist. Book xxi of the *Historia naturalis* is devoted to flowers, and the beginning of this book in the Ambrosiana Pliny is decorated with a charming young woman seated making a wreath of red and white flowers (Pl. 7a); a thorny rose vine enlivens the margin. Pliny begins Book xxi with a section on the making of garlands or chaplets. He relates the story of a Greek painter named Pausias who fell in love with a chaplet maker named Glycera and painted a famous portrait of her.³⁵ This story inspired Pietro da Pavia's miniature.

A visual source for the girl making a garland may also be suggested. Among the most famous examples of late fourteenth-century Lombard illumination are several manu-

³⁰ Cogliati Arano, op. cit. n. 27 above, figs 278 (fol. 96^v, Book ix), 281 (fol. 141^r, Book xiv), 277 (fol. 332^r, Book xxxv).

³¹ An example of a man seated in profile fishing is found as early as the 12th century in an Italian Psalter from the Vallombrosan monastery at San Paolo a Ripa d'Arno (Florence, Biblioteca Laurenziana, MS Aquisti e Doni 181, fol. 1^v, February; M. Salmi, *Italian Miniatures*, New York 1954, p. 14 and fig. 11). A good example of a vintage scene can be found in a Lombard *Hours* dated 1385 in Forlì (Biblioteca Comunale, MS 853, fol. 9^r; D. Fava et al., *Tesori delle biblioteche d'Italia: Emilia e Romagna*, Milan 1932, p. 312 and fig. 161). Sowing was a regular scene for September and October.

³² One of the earliest images of an artist painting is in the 6th-century Greek Dioscorides herbal in Vienna (Cod. Med. gr. 1, fol. 5^v; Gerstinger, op. cit. n. 19 above). For scribes and illuminators in the 12th to 14th centuries see A. Martindale, *The Rise of the Artist*, New York 1972, figs opp. title-page, and 2, 24, 44, 47, 49 and

83; V. W. Egbert, *The Medieval Artist at Work*, Princeton 1967, pls 1, iv-vii, ix, xi, xxiv-xxv, xxx, and fig. 5; and C. Bellinati and S. Bettini, *L'Epistolario di Giovanni da Gaibana*, Vicenza 1968, facsimile volume, fol. 98^v.

³³ Miners may be seen in the following: New York, Pierpont Morgan Library, MS M. 873, fol. 1^v, Johannes Platerius, *Compendium salernitanum*, Venetian, third quarter of the 14th century (Baumann, op. cit. n. 10 above, pp. 103-04, and fig. 80b); Rome, Biblioteca Casanatense, MS 459, fol. 107^v; London, British Library, MS Egerton 747, fol. 12^r (ibid., fig. 81a).

The Andrea Pisano relief is discussed by L. Becherucci and G. Brunetti, *Il Museo dell'Opera del Duomo a Firenze*, Milan 1969, 1, pp. 233-36, and pl. 77.

³⁴ On Visconti patronage see P. Toesca, op. cit. n. 29 above; *Storia di Milano*, Milan 1955, v and vi; *Arte lombarda dai Visconti agli Sforza*, Milan 1958; and E. Pellegrin, *La Bibliothèque des Visconti et des Sforza*, Paris 1955, and *Supplement*, 1969.

³⁵ *H. N.*, xxi, iii, 4-5.

scripts of a new kind of health manual or plant book, the *Tacuinum sanitatis* attributed to Ibn Butlân.³⁶ The sequence and dating of these manuscripts are controversial, but scholars have usually dated at least one of them, a copy in Paris, to the 1380s.³⁷ The Paris *Tacuinum* would therefore precede the Pietro da Pavia Pliny of 1389, whereas the copies in the Biblioteca Casanatense in Rome, and in the Nationalbibliothek, Vienna, would follow it in the 1390s.

The *Tacuinum* manuscripts have nearly full-page miniatures of plants or of activities related to the plants; the text is restricted to a few lines at the bottom of the folio (Pl. 6d). In the Paris copy of the *Tacuinum sanitatis* the 'Rose' is illustrated by a seated girl holding white roses in her lap. The roses are not fashioned into a garland and the girl does not wear a garland on her head.³⁸ The text of the *Tacuinum* makes no reference to the Glycera story nor to the making of garlands. In copies of the *Tacuinum* in Vienna, Rome and Liège, however, the 'Rose' illustrations clearly show seated girls making garlands. The pose of the girl in the copy of the *Tacuinum* in the Biblioteca Casanatense of Rome is virtually identical to Pietro da Pavia's Glycera (Pl. 6d). I suggest that Pietro may have been inspired by the visual prototype of the seated girl from the Paris *Tacuinum* and have adapted it to the Glycera story by arranging the rose into a garland. The artists of the Vienna and Casanatense manuscripts in turn could have borrowed Pietro's new motif of the garland maker to illustrate their text for the 'Rose'. Such a process would indicate a lively interchange of motifs between artists at the Visconti court, and would also help to confirm a date after 1389 for the copies of the *Tacuinum* in Vienna, Rome, and Liège. Furthermore, the motif of girls seated making garlands initiates Book xxi of the French Pliny in Turin, and thus is one of the specific links between it and the Ambrosiana Pliny.³⁹

A more unusual composition is found at the beginning of Book xxxiv in both the Ambrosiana and the French manuscripts. In each miniature there is a nude statue on a pedestal flanked by candelabra (Pl. 7b, c). The figure and candelabra in the Ambrosiana Pliny by Pietro da Pavia are gold, and they are set under a delicate pink and blue Gothic pavilion. The male nude of the French miniature has a golden head, but the rest of the body is blackened as if it had been painted in silver which has oxidized. One candelabrum is also gold and the other two are again oxidized.

The image of the statue and candelabra is probably the result of merging a specific brief anecdote told by Pliny with a topic to which, by contrast, he devotes many chapters of Book xxxiv. The statue in the chapel-like structure of Pietro da Pavia's miniature is occasioned by the long section which Pliny devotes to statues of the gods made of bronze. The candelabra in the same shrine must come instead from an episode which Pliny relates

³⁶ On the *Tacuinum sanitatis* see Cogliati Arano, op. cit. n. 16 above; and B. Witthoft, 'The *Tacuinum Sanitatis*: A Lombard Panorama', *Gesta*, xvii, 1978, pp. 49–60.

³⁷ O. Pächt (op. cit. n. 15 above), E. Arslan ('Riflessioni sulla pittura gotica "internazionale" in Lombardia nel tardo Trecento', *Arte lombarda*, viii, no. 2, pp. 25–66), and L. Cogliati Arano (op. cit. n. 16 above) all accept the following sequence: Paris (Bibliothèque Nationale, MS nouv. acq. lat. 1673), Vienna (Nationalbibliothek, MS 2644), and then Rome (Biblioteca Casanatense, MS 4182). These scholars date the Paris copy in the 1380s and the other manuscripts after 1390. Witthoft (op. cit. n. 36 above) argues that the sequence

is Vienna, Rome, Paris, but she too dates one copy (Vienna) to the 1380s. Cogliati Arano believes that a less well-known copy in Liège (Bibliothèque de l'Université, MS 1041) is earliest of all, c. 1380, while Witthoft suggests that it is much later, in the second quarter of the 15th century.

³⁸ For illustrations of the 'Rose' see Cogliati Arano, op. cit. n. 16 above, pls xxxii (Paris, fol. 83^r), xxxiii (Vienna, fol. 38^r), xxxiv (Rome, fol. lxix^r) and fig. 65 (Liège, fol. 64^r).

³⁹ Turin, MS 1.1.25, fol. 49^r. The miniature is unfortunately too badly damaged to reproduce well.

among several others to exemplify additional uses of bronze. A hunchbacked slave, Clesippus, was exhibited naked at a banquet along with candelabra purchased by a rich woman, Gengania. The slave subsequently became the lover and heir to the patroness, and after her death he worshipped a candelabrum as a deity. The fact that the French artist of the Turin Pliny later repeats not only the statue, but also includes prominently placed candelabra, suggests that he knew an Italian manuscript in which both elements had already been merged. An independent decision to illustrate the candelabra and the statue seems unlikely. The statue of a nude figure accompanied with candelabra also reappears in two late fifteenth-century Venetian copies of the *Historia naturalis*, and thus the motif subsequently seems to have become an accepted part of the Pliny cycle in Northern Italy.⁴⁰

In the context of illustrated copies of the *Historia naturalis*, the Ambrosiana Pliny of 1389 should be seen as an appealing pastiche. The patron, Pasquino Capelli, had a taste for manuscripts of classical texts, and an appreciative eye for the new naturalism of Lombard illuminations. He must have seen that possession of an illustrated Pliny would be an ideal vehicle for combining these two interests, and that it would additionally rival the herbal and health books which were a novelty at the Visconti court. Pasquino Capelli himself was probably known to members of the Valois court. In 1383 he was in Paris where he not only is known to have acquired manuscripts for his library, but is presumed to have been on a mission for Giangaleazzo Visconti regarding the marriage of Valentina Visconti to Louis d'Orléans. In 1387 he was a witness to this marriage. The Pietro da Pavia Pliny may not have passed into the Visconti library when Pasquino was disgraced and executed in 1398, since it does not appear in the inventories of 1426 and 1459. Nevertheless, in the decade between 1389 and 1398 there was ample time in which its partial cycle of illustrations could have been admired, copied and made available to the French artist who illustrated the Turin Pliny for the Duc de Berry.⁴¹

THE BERRY PLINY IN TURIN

Jean, Duc de Berry, was the single most important patron of manuscript illumination at the end of the fourteenth century, and there were many texts by classical authors among the volumes in his library.⁴² In the inventory of his library made in 1413 there is listed 'un livre de Pline richment historie' but no extant manuscript has previously been identified with this item.⁴³ In all probability the 'livre de Pline' is an extensively illustrated but badly damaged manuscript in the Biblioteca Nazionale in Turin. Notes in their files

⁴⁰ *H. N.*, xxxiv, vi, 11–12, and ix–xix. The late 15th-century copies are an incunabula at Holkham Hall (formerly designated MS 394), Venice, N. Jenson, 1476; and a manuscript written for Giovanni Pico della Mirandola in 1481 (Venice, Biblioteca Marciana, MS lat. 245 [2976]).

⁴¹ Pasquino Capelli's important library, which was confiscated by Giangaleazzo Visconti when Capelli was executed on a false charge of treason in 1398, and his trip to France in 1383 are discussed by Pellegrin (op. cit. n. 34 above, 1955, pp. 46–47; and 1969, pp. 14–18).

⁴² M. Meiss, *French Painting in the Time of Jean, Duc de Berry: The Late Fourteenth Century and the Patronage of the*

Duke, 2 vols, London 1967; *The Boucicaut Master*, London 1968; and *The Limbourg Brothers and Their Contemporaries*, 2 vols, New York 1974.

⁴³ M. Guiffrey, *Inventaires de Jean, Duc de Berry, 1401–1416*, Paris 1896, II, p. 124 (A. Registre KK258, Archives Nationales: Inventaire de 1413, no. 961); and L. Delisle, *Recherches sur la Librairie de Charles V*, Paris 1907, II, p. 252, no. 181. The 'missing' Pliny is noted by Meiss, op. cit. n. 42 above, *The Late XIVth Century, Text*, 1967, p. 288.

indicate that the manuscript formerly contained the *ex-libris* of Jean de Berry, presumably before it was badly damaged in the disastrous fire of 1904 in the Turin Library.⁴⁴ The absence of other manuscripts fitting the description of the 1413 inventory, and the style of the miniatures, lead to the conclusion that the Turin *Historia naturalis* was indeed a Duc de Berry acquisition.

The discovery of the Turin manuscript enhances our knowledge of Jean de Berry's interest in classical authors, as well as proving that the Italian cycle of illustrations for the *Historia naturalis* had become known in France by the first decade of the fifteenth century. In addition to painting a nearly complete traditional cycle with animals, plants and trees, physicians and a magician, the French artist added a unique series of Greek and Roman personages to the cycle which emphasized the historical rather than the naturalistic content of the *Historia naturalis*. This feature heightens the importance of the Turin manuscript in the sequence of illustrated copies of Pliny.

The format of the Turin Pliny decoration consists of rectangular miniatures framed in gold which interrupt the column of text, decorative illuminated capital letters, and marginal motifs of baguettes and vine leaves (Pl. 8a). The organization of the elements is virtually identical to that of the Boccaccio *Des cas des nobles hommes et femmes* in the Francis Kettaneh Collection, or of the Bartolomeus Anglicus *Propriétés des choses* in the Fitzwilliam Museum, Cambridge (Pl. 9a) which have been attributed to the Boucicaut Master and dated between 1410 and 1415.⁴⁵

The figures in the miniatures of the French Pliny resemble contemporary miniatures which have been attributed to the workshops of the Boucicaut Master, the Cité des Dames Master, and the Luçon Master. For example, the sciapode of Book vii resembles the one painted by the Boucicaut Master in the *Livre des Merveilles* which was given to the Duc de Berry shortly before 1413 (Pl. 9b, c).⁴⁶ The physician of Book xxix of the Turin Pliny resembles a doctor in the Cambridge *Propriétés des choses* (Pl. 9a, d), and is also similar to scholars in a second copy of the same text dated about 1413 which is in Paris.⁴⁷ The stance, proportions and fall of the drapery of the woman in the miniature on folio 93 verso of the Turin Pliny are related to miniatures from copies of the *Cité des Dames* of Christine de Pisan which were made about 1405.⁴⁸ Kings, riders and men in armour with features similar to Pompey and Julius Caesar (Pl. 10a) also appear in manuscripts attributed to the workshops of the Boucicaut Master and the Luçon Master. An example of the latter is a scene of *Darius in the Stocks* from the *Cas des nobles hommes et femmes* which was given to Jean de Berry for the New Year of 1411 (Pl. 10b).⁴⁹

⁴⁴ See n.3 above. There is no mention of the provenance in either G. Passini, *Codices manuscripti Bibliothecae Regii Taurinensis Athenaei per linguas digesti*, Turin 1749, Codd. 465–66; or in the *Inventari dei manoscritti delle biblioteche d'Italia*, 28, 1922 (F. Cosentini), p. 139, nos. *1353 and R.1354. Descriptions in both French and Italian in the files of the Biblioteca Nazionale refer to traces of the Berry 'ex-libris' at the end of the first volume.

⁴⁵ Meiss, op. cit. n. 42, *The Boucicaut Master*, pp. 102–04, and fig. 392; and D. Byrne, 'The Boucicaut Master and the Iconographic Tradition of the "Livre des Propriétés des Choses"', *Gazette des Beaux-Arts*, xcii, 1978, pp. 149–53 (Cambridge, Fitzwilliam Museum, MS 251).

⁴⁶ Meiss, op. cit. n. 42 above, *The Boucicaut Master*, pp. 116–22 (Paris, Bibliothèque Nationale, MS fr. 2810, fol. 29^v).

⁴⁷ Ibid., pp. 58–59, 122–23, and figs 449–51 (Paris, Bibliothèque Nationale, MS fr. 9141, fols 43^r, 217^v, and 197^r).

⁴⁸ Meiss, op. cit. n. 42, *The Limbourg Brothers, Text*, pp. 12–15, and 290; *Plates*, figs 35–36 and 39 (Paris, Bibliothèque Nationale, MSS fr. 1179 and 607).

⁴⁹ Meiss, op. cit. n. 42 above, *The Boucicaut Master*, pp. 47, 50, and fig. 397 (Geneva, Bibliothèque publique et universitaire, MS fr. 190, 1, fol. 139^r).

The landscapes of the Turin Pliny with castles, towns and bodies of water with large fish also find echoes in miniatures from the circle of the Boucicaut Master. They are not as subtle nor as complex as the best of such landscapes, however. Rather unusual in the Turin Pliny are the large aggressively curling acanthus leaves in blue or pink on black grounds (Pls 5c, 7c, 9d, 10d). Miniatures in which the 'sky' is filled with curling lines in intense blue or in lighter colours are found at least as early as the 1380s when they appear in the Parement Master's section of the *Très Belles Heures de Notre Dame*, and they continue well into the second decade of the fifteenth century in the workshops of the Boucicaut Master and the Cité des Dames Master. In these examples, however, the vines usually have narrower and more delicate leaves than the Turin Pliny miniatures.⁵⁰

These comparisons indicate a date for the Turin Pliny between 1400 and 1410, and an artist in the circle of the Boucicaut Master. He could have been the Cité des Dames Master. The Pliny painter certainly fits Millard Meiss's characterization of that artist as someone who specialized in secular texts in the first two decades of the fifteenth century.⁵¹ The poor condition of the Turin miniatures makes it difficult to confirm their identification, but at least the localization to the circle of the Boucicaut Master is plausible.

The miniatures of the French *Historia naturalis* in Turin have the formal and iconographic unity which is lacking in the Ambrosiana Pliny of 1389 by Pietro da Pavia. This suggests that he was working from a prototype which was more consistent in appearance than the Ambrosiana Pliny itself. The model must have included both the herbal and medical imagery of the Bolognese Pliny of 1300 now in the Escorial, and some of the distinctive images of the Ambrosiana Pliny such as the nude statue with candelabra. Very probably the model was Italian, and political and cultural ties between the Valois and the Visconti courts could have facilitated obtaining such a model. The fact that all other medieval and Renaissance illustrated copies of Pliny known at present are Italian further supports the notion of the Italian origin of the most extensive cycle.

In the French Pliny the miniatures which are most closely related to the herbal and medical imagery of the earliest illustrated *Historia naturalis* are not surprisingly at the beginning of the zoological, botanical and medical books. An elephant and castle initiates Book VIII on animals; a triton and fish swimming in the sea are used for Book IX; and beehives are the motif for Book XI on insects.⁵² The choice of a triton, a mythical creature, instead of fish alone or even the activity of fishing, is an indication of the classicizing tendency of the French artist and his patron.

⁵⁰ Meiss, op. cit. n. 42 above, *The Late XIVth Century, Text*, pp. 337-40, and *Plates*, figs 9 and 16 (Paris, Bibliothèque Nationale, MS nouv. acq. lat. 3093, pp. 50 and 162); and *The Boucicaut Master*, p. 47, and fig. 393 (Paris, Bibliothèque de l'Arsenal, MS 5193, Boccaccio, *Des Cas des nobles hommes et femmes*, fol. 229, Cité des Dames Master, c. 1411); and pp. 96-97, and figs 345, 347, 351 (London, British Library, MS Royal 15.D.III, Guiart des Moulins, *Bible historiale*, fols 15^v, 31^v, and 219^v, Boucicaut Workshop, c. 1415).

⁵¹ Meiss, op. cit. n. 21 above, pp. 56-61.

⁵² Book XI of the Ambrosiana Pliny by Pietro da Pavia was illustrated by a sequence of insects, including bees, in the margin of folio 116^r (n. 29 above). It is probable, however, that a miniature with bees (or beehives) alone was in the model immediately followed by the French

master. This is suggested by the reappearance of bees and/or beehives in the Cristoforo Cortese Pliny in Parma (MS Parm. 1278, fol. 70^v); and for Book XI of the following Renaissance copies: London, Victoria and Albert Museum, MS A.L. 1504-1896 (Giuliano Amedei, c. 1460; J. I. Whalley, *Pliny the Elder: Historia naturalis*, London 1982, p. 20); Paris, Bibliothèque Nationale, Rés. S. 415 (Venice, N. Jenson, 1472); Oxford, Bodleian Library, Inc. Douce 310 (Venice, N. Jenson, 1476); Venice, Biblioteca Marciana, MS lat. vi, 245 (2976), 1481 (see n. 40 above); Turin, Biblioteca Nazionale, MSS I.1.22-1.1.23, Mantua, 1463-69 and 1489ff. (A. Bovero, 'Ferrarese Miniatures at Turin', *Burlington Magazine*, xcix, August 1957, pp. 260-63, and fig. 3, fol. 8^v).

The vocabulary of the miniatures in the botanical books is also anticipated in the Italian manuscripts already discussed. Varieties of trees begin Books XII and XIII, XV, XVI and XX. They rise from dull green grass-sprinkled ground, and their foliage contrasts with the heavy coiling pink or blue acanthus leaves of the background. Grape vines are depicted for Book XIV, and trees combined with vines decorate Book XXIII (Pl. 5c), the two books in which Pliny considers viticulture.

Like the Italian copies of the *Historia naturalis*, the French Pliny has representations of physicians and of a magician. For Book XXIX the artist chooses one traditional type of physician, a standing figure with a urine flask (Pl. 9d); for the same book the Bolognese artist of the Escorial Pliny showed a man grinding substances with a mortar and pestle. Book XXVI is another for which physicians are sometimes chosen; in the Ambrosiana Pliny Pietro da Pavia depicted a dignified scholar holding a book. The French artist instead shows a physician attending a patient (Pl. 10c). The miniature is placed before the second chapter of Book XXVI in which Pliny praises Hippocrates. The physician kneels at the bedside of the sick man, and holds a dark instrument to his bleeding neck. The artist of the French Pliny has thus shifted an image found frequently in illustrated herbals and surgical treatises to a text which praises a specific ancient authority.⁵³

The magician of the Turin Pliny is more explicitly engaged in his occupation than were the figures in curious pointed hats of the Escorial manuscript. The magician stands with folded arms in the middle of a magic circle, and confronts a red-eyed demon with goat's horns and grasping claws (Pl. 10d). Pliny does not describe the practice of conjuring in a magic circle, but references to such circles are made in texts circulating by 1400.⁵⁴ Representations of this practice, however, are extremely rare before the later

⁵³ Both Italian and French medical manuscripts abound with images of physicians at the bedside of patients. For Italian examples see Vienna, Codex 93, fols 78^r, 85^v, 86^r ff. (facsimile edition, n. 16 above), and the Yale Codex Paneth, pp. 20, 53, 113 (see n. 17 above). For a French 13th-century example see London, British Library, Sloane MS 1977, Rogerius Salernitanus, *Chirurgia* (in French), c. 1250, fols 3^r, 9^v, and 47^v. 'Portraits' of specific ancient physicians were included in many medical manuscripts and in 14th-century herbals, but are usually shown seated or even enthroned before lecterns (see n. 19 above, and Baumann, op. cit. n. 10 above, pp. 102–03 and figs 79a–b; Paris, Bibliothèque Nationale, MS lat. 6823, fols 1^r and 1^v, Manfredus, *De herbis et plantis*, Lombard, mid-14th century; and pp. 107–08 and fig. 80c; Florence, Biblioteca Nazionale, MS Palatino 586, fol. 7^r, *Tractatus de herbis* [in French]).

⁵⁴ Thorndike notes that references to magic circles are included in writings associated with the names of King Solomon, Michael Scotus, William of Auvergne, and Pietro d'Abano; the manuscripts he cites, however, are later in date than the French Pliny (op. cit. n. 1 above, II, pp. 227, 288, 321, 343, 345 and 912). C. C. McCown refers to a Greek 'medieval' manuscript (London, British Library, Harl. MS 5596) containing the *Clavicula Salomonis* (*The Testament of Solomon*, New York 1922,

p. 14); later 16th- and 17th-century manuscripts of the *Clavicula* include descriptions of drawing magic circles (S. L. MacGregor Mathers, *The Key of Solomon the King*, London 1909, pp. vii and 99–100).

An image of a necromancer with a demon (but no magic circle) from a southern French manuscript of about 1300 has recently been published by M. Evans ('Allegorical Women and Practical Men: The Iconography of the *Artes* Reconsidered', *Studies in Church History*, Subsidia 1: *Medieval Women*, Oxford 1978, pp. 305–29, esp. pl. 1, British Library, MS Add. 30024, Brunetto Latini, *Livre du trésor*, fol. 1^v, Practitioners of the Liberal and Non-Liberal *artes*). Evans notes the *magus* from about 1225 on the North porch of Chartres Cathedral, but emphasizes the rarity of the image. It is interesting that the Brunetto Latini folio contains many 'practitioners' who are also found in Pliny illustrations by the later Quattrocento including a physician with a urine flask, a monk and a layman writing, a painter, a metal worker, a weaver, and a ploughman. Since the unique miniature in the Brunetto Latini manuscript is about contemporary to the earliest known illustrated Pliny (the Escorial manuscript), the relationship between them remains unclear. Perhaps further research will indicate some connection between the representations of the *artes* and illustrated manuscripts of Pliny.

fifteenth century, when they appear again in copies of the *Historia naturalis* and in woodcuts of printed texts dealing with magical practices.⁵⁵

In contrast to the animals, plants and physicians, which can be related back to the earliest Bolognese illustrated copy of Pliny, there are miniatures in the French manuscript which can be linked most intimately to the Ambrosiana Pliny of 1389. These are the garland makers of Book *xxi* and the statue of a nude with candelabra of Book *xxxiv* (Pl. 7c) which have already been discussed. They should now be recalled in the context of an effort to understand the overall programme of the French manuscript.

The third category of images in the French Pliny are those not found in the two earlier fully illustrated Italian copies of *Historia naturalis*. These miniatures are all concentrated in the first seven books of the French manuscript. A predilection for pictures of classical personages is evident on the opening folio. One of the two miniatures there shows a ship with armed soldiers approaching a shore above which a mountain erupts with red flames. Clearly the scene is Pliny's fatal visit to the vicinity of Mt Vesuvius during the eruption of A.D. 79, an episode only rarely repeated in later illustrated copies of the *Historia naturalis*.⁵⁶

Unpopulated landscapes with castles, hills and bodies of water appear in the miniatures of the geographical Books *iii* to *v*. The question of whether or not these landscapes are a French contribution to the Pliny cycle must remain a moot point. The Bolognese Pliny of about 1300 used a map-like landscape not for the geographical books, but to represent the universe at the beginning of the cosmological Book *ii*. It should be noted that the thirteenth-century medical compendium Vienna Codex 93 included landscapes to designate the origins of certain herbs (Pl. 4a). Thus the medical tradition could have supplied this imagery to the Pliny cycle. Moreover, a late fourteenth-century Venetian Pliny now in Paris includes among its incomplete illustrations a landscape for one geographical book, Book *iv*, which is similar to the later French miniatures.⁵⁷ Nearly all subsequent fifteenth-century Italian manuscripts include landscapes or maps to illustrate the geographical books. Despite the sparseness of the evidence I believe that the Italian model used by the French artist already included landscapes for this section of the *Historia naturalis*.

The miniature for Book *vi* which Pliny devotes to Asia, and the first miniature for Book *vii* on Man, depict the monstrous peoples of the East: a nude with a club, a dog-headed man and a sciapode (Pl. 9b). Pliny describes many exotic types in these books, and his descriptions were pirated for use in medieval compilations of wonders such as the *Livre des Merveilles*. The visual images of the sciapode and other monstrous peoples can be traced back to late antique models, and they were certainly widespread by 1400.⁵⁸ In the

⁵⁵ The Renaissance examples in copies of Pliny are: London, Victoria and Albert Museum, MS A.L. 1504-1896, fol. 430^r (see n. 52 above); Paris, Bibliothèque Nationale, Rés. S. 415, Book *xxx* (see n. 52 above); Turin, Biblioteca Nazionale, MSS 1.1.22-23, Book *xxx* (see n. 52 above and U. Meroni, *Mostra dei Codici Gonzagheschi, Biblioteca Comunale, 18 settembre-10 ottobre, 1966*, Mantua 1966, pl. 106); and Venice, Biblioteca Marciana, MS. lat. vi, 245 (2976) (see n. 40 above).

⁵⁶ For a late 15th-century Neapolitan example see Vatican, Biblioteca Apostolica, MS Vat. lat. 3533, fol. 1^r.

⁵⁷ Paris, Bibliothèque Nationale, MS lat. 6801, fol. 51^r. The manuscript has only a few initials with images related to the text of the *Historia naturalis*. Most of the decoration is late 14th or early 15th century, and there are later 15th-century additions. On fol. 31^r are the arms of the Bollani family of Venice. The manuscript will be published in the forthcoming catalogue of the Italian illuminated manuscripts of the Bibliothèque Nationale (verbal communication, Dr François Avril, January 1979).

⁵⁸ Wittkower, op. cit. n. 9 above, pp. 171-76, and pls 42a, b, c, and 44c.

immediate ambience of the artist of the Turin Pliny would have been the sciapode painted by the Boucicaut Master in the Duc de Berry's elaborately illustrated *Livre des Merveilles* (Pl. 9c).⁵⁹ As already mentioned, the two figures are very closely related. Once reunited to the text of the *Historia naturalis*, images of monstrous peoples become one of the standard illustrations for Book vi on Asia and Book vii on Man.⁶⁰

The additional miniatures illustrating Book vii of the Turin Pliny are unique among known medieval and Renaissance copies of the *Historia naturalis*. The eight miniatures clustered on folios 91 recto to 93 verso are not at all typical. An illustrated Pliny normally has at most one miniature at the beginning of each of the thirty-seven books. The miniatures initiate chapters 26–28 (Loeb 25–27) and 30–34 (Loeb 29–33) of Book vii, which are filled with references to famous men and women.⁶¹ Julius Caesar is depicted as a king riding a peculiar white horse for whose hooves have been substituted human hands (Pl. 10a). This odd attribute does not depend upon the accompanying text of the *Historia naturalis*, but comes from a story in Suetonius in which Caesar is said to have ridden a remarkable horse 'with feet that were almost human, for its hoofs were cloven in such a way as to look like toes'.⁶² Pompey the Great follows, also shown in medieval armour. He faces three kneeling kings, and three similarly crowned figures lie dead behind him. The miniature perhaps alludes to Pliny's emphasis on Pompey's triumphs when he was still a knight (*equus Romanus*), and to the titles which, like crowns at the sacred contests, Pompey brought back to bestow on Rome.⁶³ Chapter 28 (Loeb 27) refers to Cato the Elder. The miniature shows a man standing on a hillock gesturing toward three banqueters seated at a table at the right. The kneeling King of Chapter 30 (Loeb 29) must be Alexander the Great to whom there is a reference in that chapter. The damaged miniature at the beginning of Chapter 31 (Loeb 30) shows a bishop, a man in the costume of a doctor or magistrate, and a nobleman (?). In this chapter Pliny calls Plato the high priest of wisdom (*Platoni sapientiae antistiti*), and he goes on to praise other orators and writers. The bishop may refer to 'antistiti'.⁶⁴

On folio 93 this unusual sequence comes to a climax with three miniatures. The text of the very short Chapter 32 (Loeb 31) mentions Romans with the surnames Wise and Sage, and Socrates 'whom the Pythian Apollo's oracle placed before all other men'. There is little in these few sentences to explain the woman and two children walking into a small building with hands piously folded. In contemporary French manuscripts of other texts, there are miniatures of *Socrates in Prison*, so the scene might be Xanthippe bringing the

⁵⁹ Paris, Bibliothèque Nationale, MS fr. 2810, fol. 29^v (R. Wittkower, 'Marco Polo and the Pictorial Tradition of the Marvels of the East', in *Allegory and the Migration of Symbols*, Boulder, Colo. 1977, pp. 77–96, fig. 123). See also n. 46 above.

⁶⁰ The sciapode and several other monstrous peoples are used by Giuliano Amadei for Book vii in the Victoria and Albert Museum Pliny (MS A.L. 1504–1896, fol. 94^v). Books vi and vii of the Pico della Mirandola Pliny of 1481 in the Biblioteca Marciana (MS lat. vi, 245 [2976]) are illustrated with monstrous peoples, and the first printed edition of the *Historia naturalis* with woodcut illustrations continues the tradition (Venice, Melchior Sessa, 1513, Book vi).

⁶¹ The numbering of the chapters in Book vii of the Turin Pliny does not correspond with the Loeb nor with

the Budé editions (see nn. 7 and 12 above). Acknowledgement of variations in the enumeration is made in the Budé edition, however (*Livre vii*, trans. and comm. by R. Schilling, Paris 1977, esp. 71–82). I shall use the numbering in the Turin manuscript followed by those of the Loeb edition in parentheses.

⁶² Gaius Suetonius Tranquillus, *De vita Caesarum* (Loeb Classical Library), Latin and English ed. by J. C. Rolfe, New York 1914, I, pp. 82–83 (*Divus Iulius*, LXI). I am grateful to Dr Jennifer Montagu of the Warburg Institute for this reference.

⁶³ Turin, Book vii, xxvii (Loeb, vii, xxvi, 97).

⁶⁴ Loeb, vii, xxx, 110.

children to bid farewell to Socrates. The children, however, appear to be girls, which would be inaccurate.⁶⁵ The overseer and farmworkers digging in the soil in the next miniature likewise do not match Pliny's description of Chilo the Spartan in Chapter 33 (Loeb 32). Finally, the damaged miniature at the beginning of Chapter 34 (Loeb 33) which shows three people kneeling at an altar on which stands a nude dog-headed figure again seems unrelated to anyone praised in this part of Book VII.

Except for the sciapode, the miniatures of Book VII in the Turin Pliny are peripheral to the study of the cycle developed to illustrate the *Historia naturalis*. Just how images migrated from one text to another at this period is not at all clear, especially when the phenomenon is an isolated one for a particular text.⁶⁶ For the moment, the classical miniatures in Book VII of the Turin Pliny serve to indicate that the Duc de Berry was not completely satisfied with the naturalistic imagery found in earlier illustrated copies of the *Historia naturalis*. The Turin Pliny is thus an exceptionally interesting document of the Duke's taste, as well as being an important example of the transmission from Italy to France of a highly developed iconographic cycle for a classical author.

THE CRISTOFORO CORTESE PLINY IN PARMA

The importance of the extensively decorated Pliny in the Biblioteca Palatina of Parma⁶⁷ is twofold. Firstly, it can be shown to belong to the mature period of the prolific Venetian miniaturist Cristoforo Cortese. Then, iconographically it is the most complete and varied of the Gothic cycles of the *Historia naturalis*. A survey of its miniatures can thus serve as a summary of the medieval cycle and as a preview of the Renaissance copies of Pliny.

Recent studies of Cristoforo Cortese have shown him to be the pre-eminent miniaturist active in Venice in the early Quattrocento. His career is documented in Venice from about 1399 to 1445, and it is also noteworthy that he spent several months in Bologna in 1425. A signed miniature of the *Funeral of St Francis* dated about 1425–30 has been crucial for establishing attributions to Cortese, and together with a number of other closely related works it is similarly helpful in attributing and dating the Parma Pliny.⁶⁸

The formal characteristics of Cristoforo Cortese's style are evident in the Parma *Historia naturalis* in the marginal decoration, in the forms of the initial letters, and in the figures throughout the manuscript. The various elements can be favourably compared with the finest works of the 1420s such as the signed *St Francis* cutting in the Musée Marmottan, Paris; the recently attributed Cicero in the library of the University of

⁶⁵ Loeb, VII, xxxi, 119: Socrates oraculo Apollinis Pythii praelatus cunctis. Meiss lists contemporary miniatures of *Socrates in prison* in two copies of the *Trésor des histoires*: Paris, Bibliothèque de l'Arsenal, MS 5077, fol. 100^v; and Paris, Bibliothèque Nationale, MS nouv. acq. fr. 14285, fol. 5^v (op. cit. n. 42 above, *The Boucicaut Master*, p. 110; and *The Limbours*, p. 346). If the woman is not Xanthippe (*Phaedo*, 116B), she might be the Pythia (*The Apology*, 21A), or Diotima (*Symposium*, 201D), but neither of these latter two women mentioned in the dialogues would explain the presence of children.

⁶⁶ Meiss lists miniatures of Alexander, Caesar, Cato and Pompey in manuscripts by artists of the circle of the Boucicaut Master in the first decades of the 15th century

(op. cit. n. 42 above, *The Boucicaut Master*, pp. 102–04 and 108–13).

⁶⁷ See n. 4 above.

⁶⁸ C. Huter, 'Cristoforo Cortese in the Bodleian Library', *Apollo*, cxi, 1980, pp. 11–17, with earlier bibliography. For documents on Cortese see especially I. Chiappini di Sorio, 'Documenti per Cristoforo Cortese', *Arte veneta*, xvii, 1963, pp. 156–58. The *St Francis* cutting was formerly in the Wildenstein Collection and is now in the Musée Marmottan, Paris (M. Levi d'Ancona, 'Miniature venete nella collezione Wildenstein', *Arte veneta*, x, 1956, pp. 25–36; and Huter, op. cit., p. 17, n. 1).

Vermont, Burlington (Pl. 11c); or the *Permissione of Doge Francesco Foscari*, dated 1423, in Treviso.⁶⁹ The delicately drawn vine tendrils which develop into flowers or terminate in gold dots are found throughout Cortese's mature works, as are the ducks, guinea hens, peacocks, other exotic birds, white dogs (Pl. 8b) and rabbits which inhabit the borders of the Parma Pliny. Types also frequently used by Cortese are the letters whose strokes terminate in animal heads (Pl. 6c) and those in which the shafts are colonnettes with bulging capitals (Pl. 4c).

The style of the figures, as well as the letters and the border decorations, seems to be closest to works dated in the 1420s and early 1430s. The distinctive knight at the beginning of Book xxii (Pl. 8b) is a more delicately painted version of the soldiers with Christ in the *Gradual* for the Certosa of Sant'Andrea del Lido dated 1430–35.⁷⁰ The proportions, costume and stance of the solidly-built herbalist of Book xii (Pl. 6a) resemble the Cato Uticensis in the Burlington Cicero (Pl. 11c), or the disputing philosopher of the Cicero *De natura deorum* in the Bodleian Library, Oxford.⁷¹ The brilliant colours used throughout the Parma Pliny are also those of Cortese. Intense blues are contrasted with pale pink or bright orange, and touches of bright green appear in the costumes, in the feathers of the birds and in the landscapes. The elaborate figural decoration and coherent iconographical programme of the Parma Pliny establish it as one of the most important commissions of Cristoforo Cortese's mature period, rivalled in complexity only by the two-volume *Vita Christi* of Ludolf of Saxony and a Dante in Paris, both dated in the 1430s.⁷²

The iconographic programme of the Cristoforo Cortese Pliny in Parma shows that the two principal strands of imagery developed for the *Historia naturalis* in the fourteenth century have been skilfully merged. The initials for most of the zoological, botanical and medical books are remarkably similar to the Bolognese Pliny of about 1300, and the remaining images can be traced either to the Pietro da Pavia manuscript of 1389 or to the French Pliny in Turin, both of which reflect the naturalism associated with Lombard illumination of the late Trecento.

Nineteen of the thirty-seven books of the Cortese Pliny correspond closely to the comparable books in the Bolognese Pliny in the Escorial, and five others may also relate to this earliest illustrated Pliny.⁷³ Examples of the iconographic similarity would be the

⁶⁹ For an illustration of the *Funeral of St Francis* clearly showing the signature see P. Brieger, M. Meiss, C. S. Singleton, *Illuminated Manuscripts of the Divine Comedy*, 2 vols, Princeton 1969, I, fig. 100. A second cutting with *St Francis in Glory* also from the Wildenstein Collection and the five historiated initials of the Burlington Cicero are illustrated by P. Verdier, 'Un nouveau manuscrit enluminé par Cristoforo Cortese', *Arte veneta*, xxx, 1976, pp. 147–53. For the Foscari *Permissione* see S. Savini Branca, 'Nota per Cristoforo Cortese', *Arte veneta*, xx, 1966, fig. 279.

⁷⁰ G. Mariani Canova, 'Di alcuni corali superstiti a S. Giustina in Padova: Cristoforo Cortese e altri miniatori del Quattrocento', *Arte veneta*, xxiv, 1970, pp. 35–46, and fig. 48.

⁷¹ O. Pächt and J. J. G. Alexander, *Illuminated Manuscripts in the Bodleian Library*, II, *Italian School*, Oxford 1970, p. 47, no. 451 and pl. XLIV. Huter dates the Cicero c. 1415 (op. cit. n. 68 above).

⁷² For folio 4^v of the Bolognese volume of the Ludolf of Saxony *Vita Christi* (Biblioteca dell'Archiginnasio, MS A. 121) see D. Fava *et al.*, op. cit. n. 31 above, p. 21, fig. 7; and for the Vienna half of the manuscript see Hermann, op. cit. n. 12 above, VIII, vol. VI, *Die Handschriften und Inkunabeln der Italienischen Renaissance*, part 1, *Oberitalien: Genua, Lombardei, Emilia, Romagna*, Leipzig 1930, pp. 59–74, no. 40, MS 1379 (Salis. 14) and pls xxviii (fol. 1^r), xxix (fol. 5^v), and xxx (fol. 91^r). The Dante is extensively illustrated in Brieger, Meiss, Singleton, op. cit. n. 69 above.

⁷³ The folios initiating Books xi, xx, xxv and xxvi are missing in the Escorial Pliny. In the Cortese manuscript Book xi has bees, xx a herbalist, xxiv and xxv simple trees and plants, and xxvi three doctors. All of these could be imagined as present in the Escorial Pliny before its losses since the Cortese images are all consistent with images already present elsewhere in the Escorial manuscript.

elephant of Book viii (Pl. 2a, b), the fish and birds of Books ix and x, the crooked grafted tree of Book xvii, and the trees of Books xv, xvi and xxiv. The motif of the grapevine combined with an olive tree is common to Book xxiii of both sequences (Pl. 4b, c), as are the flowers of Book xxi and the low-growing plants of Book xxvii. A further parallel between the Bolognese and Cortese manuscripts has already been mentioned; both use tiny wavy white lines to indicate rain or snow in the initial for Book xxxi on the curative powers of water.

Physicians and herbalists decorate Books xii (Pl. 6a), xx, xxvi, xxviii and xxix of the Cortese Pliny, which correspond to the figures of Books xxii (Pl. 3a), xxvii (Pl. 3b) to xxix and xxxii of the Bolognese manuscript. Like the artists of both the Bolognese and the French copies of the *Historia naturalis* Cortese depicts a magician for Book xxx (Pls 10d, 11d); his *magus* concentrates on a magic circle and other configurations drawn on the ground.

Not only is there a high degree of correspondence iconographically between the Cortese Pliny and the earliest Bolognese one, but often the form of the compositions is similar as well (Pl. 4b, c). The fact that Cristoforo Cortese was in Bologna for some months in 1425, and had declared his intention to remain there, raises the possibility that the Escorial manuscript was still in Bologna, and that Cortese had access to it when he was commissioned to illustrate a *Historia naturalis*.⁷⁴

Virtually all of the remaining initials of the Parma Pliny have their iconographic counterparts either in the Ambrosiana Pliny of 1389 or in the French Pliny in Turin. This fact suggests that Cortese had available to him as a model an illustrated copy of *Historia naturalis* from the late Trecento, similar to the one used by the French artist, in which the synthesis of the Bolognese and the Lombard types had already taken place.

Links to the iconography of the French manuscript are found in the landscapes which Cortese adopts for the geographical books, iii to vi (Pl. 11e), the magician of Book xxx mentioned previously (Pls 10d, 11d), and the ship which appears in both manuscripts to illustrate Book xxxii on the useful properties of water.

The preoccupation with the activities of farmers and craftsmen which was noted as a contribution of Pietro da Pavia in 1389 is also characteristic of Cortese. Like Pietro da Pavia who shows a farmer sowing grain, Cortese has a farmer for Book xviii, this time wielding a hoe. For Book xix Cortese shows rows of flax and white linen cloths made from the plant (Pl. 6c); for this book Pietro da Pavia had shown a woman working with the fibres (Pl. 6b). Book xxxiii on precious metals is illustrated in both by a miner digging at a hillside; and the monastic miniaturist of Book xxxv of the Ambrosiana Pliny has become

⁷⁴ The identification of the patron of the Cortese Pliny in Parma is difficult. The coat of arms painted at the bottom of folio 1^r appears to be contemporary with the rest of the decoration. The *Catologo degli manoscritti* (see n. 4 above) states that the arms may be those of Cardinal Bernardo Caracciolo. Similar arms (*argent a lion rampant azure*) are used by the Caracciolo Rossi and by the Rossi of Parma (Francesco Caracciolo, *Memorie della famiglia Caracciolo*, 1893, pp. 28, 269, and 271). A Bernardo Caracciolo may have been a cardinal between 1252 and

1261 (C. Eubel, *Hierarchia catholica medii aevi*, Regensburg 1913, I, p. 7, n. 6 and p. 38, n. 4), but this is obviously too early for the Parma Pliny. Corrado (Conradus) Caracciolo was a cardinal from 1405 to 1411 and served as a papal legate in Lombardy (Eubel, *op. cit.*, p. 26; and P. Litta, *Famiglie celebri italiane*, Milan 1819 ff., series 2, I, Tav. II). As has already been observed, however, the style of the manuscript suggests a date considerably later than 1411. Further research may clarify the identity of the owner.

an elegantly-attired painter seated at an easel painting a gilded triptych (Pl. 11b).⁷⁵ The slab of marble and finished classical column of Cortese's Book xxxvi recall Pietro da Pavia's marble worker; and the seven gems on a black ground of Cortese's Book xxxvii resemble the ring of gems in the Ambrosiana initial.

Only two of the miniatures in the Cortese Pliny have no iconographic prototype in the earlier copies of the *Historia naturalis*. The description of the cosmos in Book II does not seem to have acquired a standard image before Cortese's time. The Bolognese artist of the Escorial Pliny used a schematized map with castles and a river to suggest the universe; Pietro da Pavia anachronistically chose a God the Father holding an orb; and the French artist of the Berry Pliny showed moon, sun and stars above a curving horizon (Pl. 8a). Cristoforo Cortese depicts a series of concentric rings surrounding a T-map (Pl. 11a). The formula ultimately derives from illustrated scientific compilations, but also appears in allegorical miniatures potentially available to Cortese. Two handsomely illustrated fourteenth-century Italian copies of Francesco da Barberino's *Documenti d'amore* contain images of Prudentia with similar schemes for the universe. Cortese has borrowed the scheme, probably from scientific compendia, and has adapted it to the classical text from which parts of the scientific compilations were originally drawn.⁷⁶

The remaining figure in the Cortese Pliny which has no prototype in the known illustrated copies of the *Historia naturalis* is the appealing knight in armour at the beginning of Book xxii (Pl. 8b). In all probability he should be explained as an inventive response to the text itself. In Book xxii Pliny describes the crowns of grass which were presented by soldiers of an army to a commander who had saved his troops from destruction. Since the knight in Cortese's miniature clearly wears a crown of green grass around his helmet, he must certainly be such a commander.⁷⁷

The Parma Pliny illustrated by Cristoforo Cortese is the only one of the four manuscripts in this study which has an uninterrupted sequence of thirty-seven initials with images related to the text of each book.⁷⁸ It is therefore extremely valuable for reconstructing a stemma for the known illustrated Pliny manuscripts. All but two of the

⁷⁵ An artist at an easel, also dressed in bourgeois garb, appears among a crowd of citizens in a miniature attributed to Cortese dated about 1420 (Manchester, John Rylands University Library, Ital. MS 4, fol. 2^r; I. Toesca, 'Cristoforo Cortese', *Paragone*, xxix, May 1952, pp. 51–53 and fig. 21). For other panel painters see Egbert, op. cit. n. 32 above, pls II, XX, xxvi; Becherucci and Brunetti, op. cit. n. 33 above, pl. 79; and Meiss, op. cit. n. 42 above, *The Late XIV Century, Text*, pp. 4–5, and *Plates*, figs 287, 289, 290–92, and 294.

⁷⁶ A. C. Crombie, *Augustine to Galileo*, London 1952, p. 52. For the appearance of the T-map and concentric rings in world maps and other medieval scientific texts see M. Destombes, ed., *Mappemondes, A.D. 1200–1500*, Amsterdam 1964, pp. 10–13, and pls B, II, b; c, III, a; etc.; and H. Bober, 'An Illustrated Medieval Schoolbook of Bede's *De Natura Rerum*', *Journal of the Walters Art Gallery*, xix–xx, 1956–57, pp. 65–97, figs 1, 2, 3, 7, 8, and 13. I am grateful to Dr Michael Evans of the Warburg Institute for references on this topic.

For the Francesco da Barberino manuscripts see B. Degenhart and A. Schmitt, *Corpus der italienischen*

Zeichnungen 1300–1450, part I: *Süd- und Mittelitalien*, Berlin 1968, I, *Katalog 1–167*, pp. 31–38, fig. 57, and III, pl. 31b (Vatican, Biblioteca Apostolica, MS Barb. lat. 4076, fol. 69^v, *Prudentia*; and MS Barb. lat. 4077, fol. 58^v, *Prudentia*).

Later in the 15th century artists illustrating Book II of Pliny also included circles for the spheres of the seven planets drawn from similar sources, or following the Cortese tradition (Vatican, Biblioteca Apostolica, MS Vat. lat. 3533 [see n. 56 above]; Oxford, Bodleian Library, Inc. Douce 310 [see n. 52 above]; and Venice, Biblioteca Marciana, MS VI, 245 [2976], [see n. 40 above]).

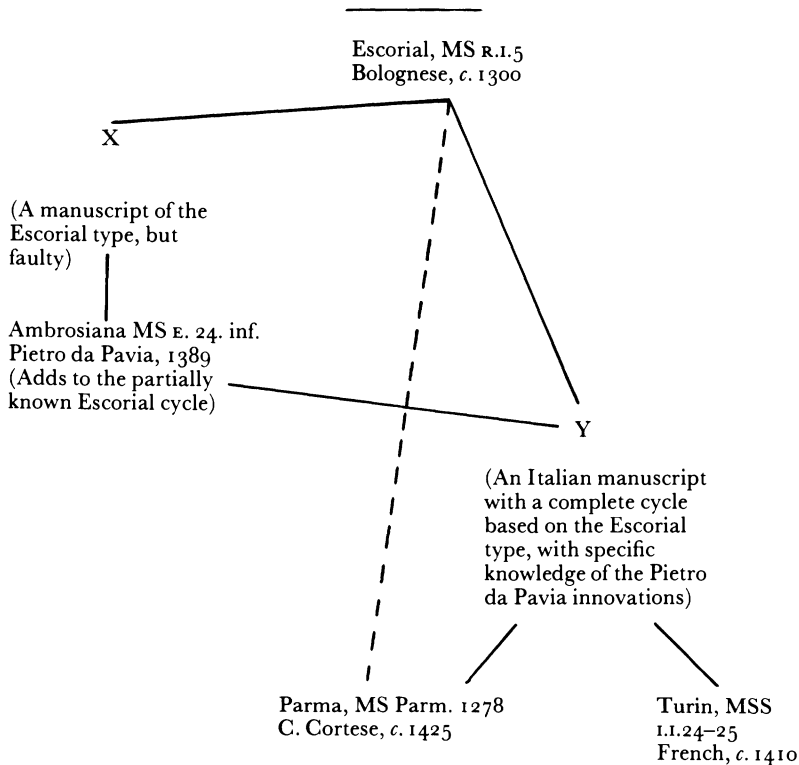
⁷⁷ *H. N.*, xxii, iv–vi. In Renaissance copies of Pliny the commander is specified as Lucius Siccus Dentatus, and is appropriately clothed in Roman armour (see Armstrong, op. cit. n. 5 above).

⁷⁸ See nn. 2, 3 and 29 for details of the images missing in the other manuscripts.

historiated initials in the Cortese manuscript, the cosmological scheme of Book II and the knight of Book XXII, are directly related to illustrations in the three known earlier manuscripts. The essential core of the images for the zoological, botanical, and medical books depends upon the images developed about 1300 in Bologna which in turn derived from illustrated herbals. All the remaining initials in the Cortese manuscript are the result of a second impulse in the development of a Pliny cycle which is represented by the farmers, miners and artisans of Pietro da Pavia and by the landscapes and the sailing ship of the French Pliny. It is likely that a synthesis of the Bolognese and the later group of images took place in northern Italy in the 1390s, and that it was known to both the French artist of the Turin Pliny and to Cristoforo Cortese.⁷⁹ It is the brilliant execution of the unified cycle which makes the Parma Pliny by Cortese a masterpiece of late Gothic manuscript illumination, rather than an iconographic innovation. The prominent position of Cristoforo Cortese in Venice would then help to explain why later Venetian miniaturists were familiar with so many aspects of his cycle for the well-known classical text.

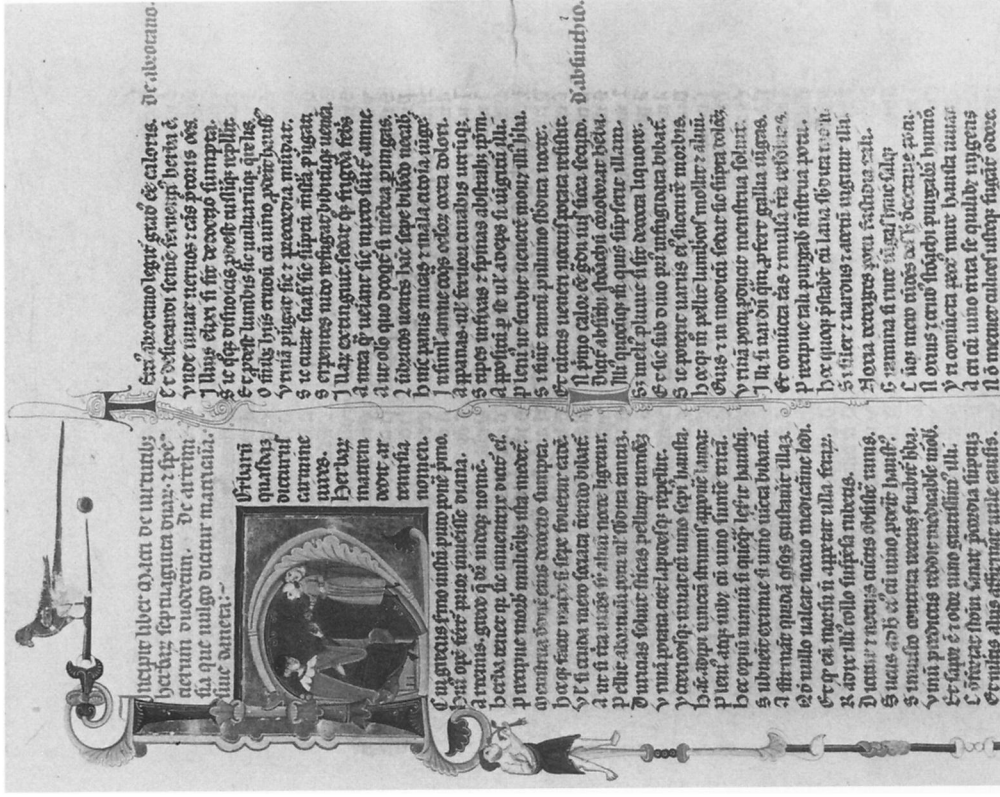
WELLESLEY COLLEGE, MASSACHUSETTS

⁷⁹ A possible stemma for the early Pliny manuscripts is:

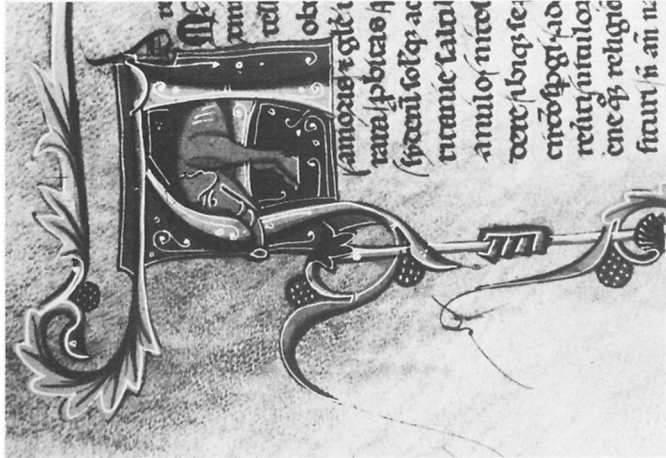




19.7
Bolognese, 1290-1300, Pliny and Titus. Pliny, *Historia naturalis*. Escorial, Biblioteca Real, MS R.I.5 [hereafter *HN Escorial*], fol. 1r
(p. 22)



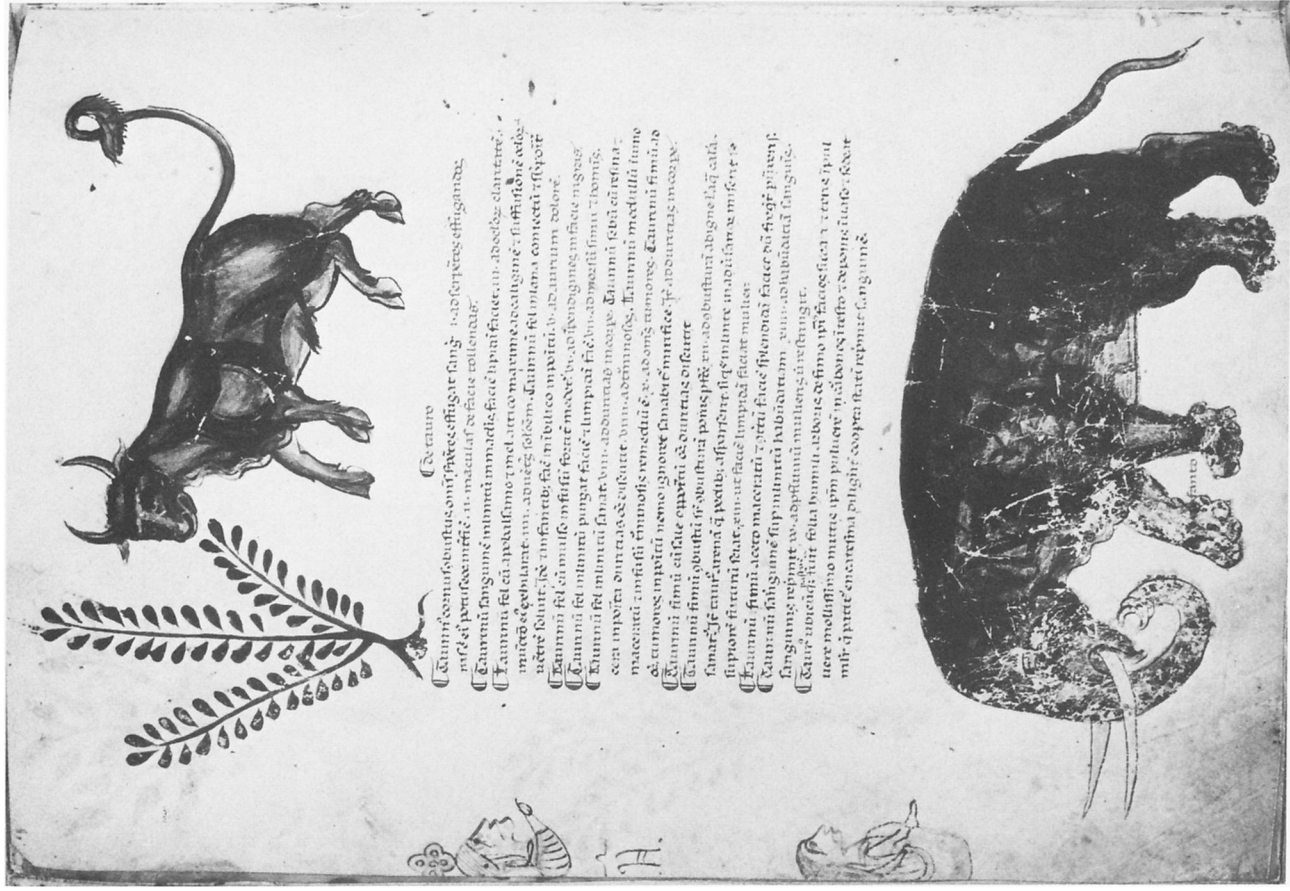
19.8
Bolognese, 1290-1300, Pliny and Titus. Pliny, *Historia naturalis*. Escorial, Biblioteca Real, MS R.I.5 [hereafter *HN Escorial*], fol. 1v
(p. 23)



a—Elephant. *HN* Escorial,
Book viii, fol. 61^v (p. 23)

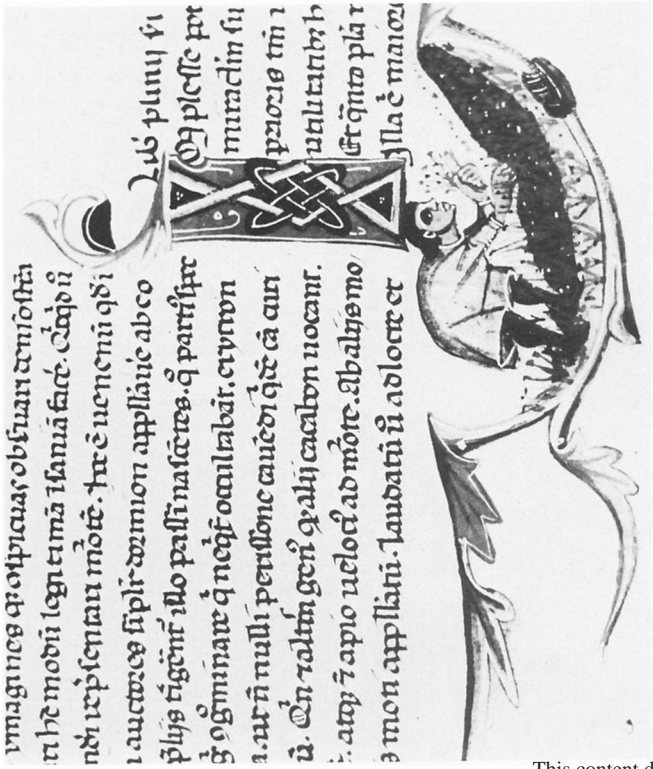
b—Cristoforo Cortese,
1425–30, Elephant, camel,
leopard. Pliny, *HN*.
Book viii. Parma, Biblioteca
Palatina, MS Parm. 1278
[hereafter *HN* Parma],
fol. 50^r (p. 37)

c—South Italian, 13th
century, Bull and elephant.
Sextus Placidus, *De
medicamentis ex animalibus*.
Vienna, Nationalbibliothek,
Cod. 93 [hereafter Vienna
Cod. 93], fol. 125^v (p. 24)

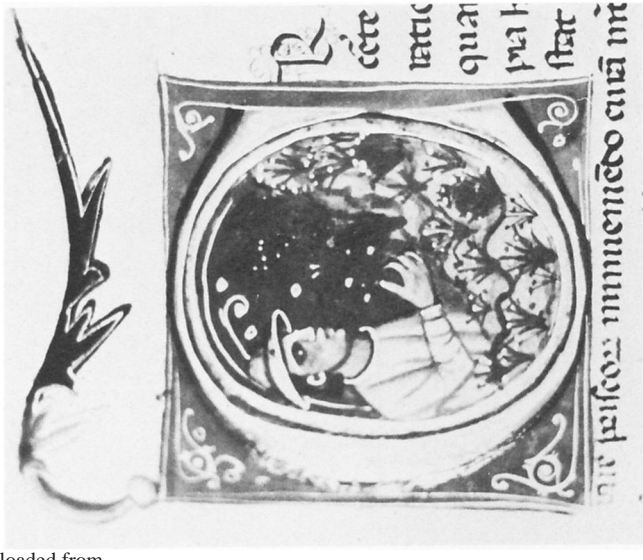




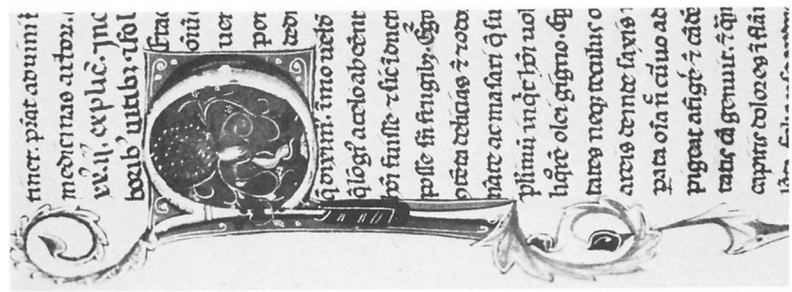
c—'Scolapius' gathering betonica. Antonius Musa, *De herba betonica*, Vienna Cod. 93, fol. 5^v (p. 24)



a—Man picking herbs. *HN* Escorial, Book xxii, fol. 146^r (p. 23)



b—Man holding herb. *HN* Escorial, Book xxvii, fol. 165^r (p. 23)



b—Olive tree and grapevine. HN Escorial, Book xxiii, fol. 152^r (p. 23)



c—Olive trees and grapevine. HN Parma, Book xxiii, fol. 146^v (p. 37)



—Crete and Sicily. Shepherds bringing the herb paeonia to Homer. Apuleius, *De medicamentibus herbarum*, Vienna Cod. 93, fol. 72^r (p. 24)



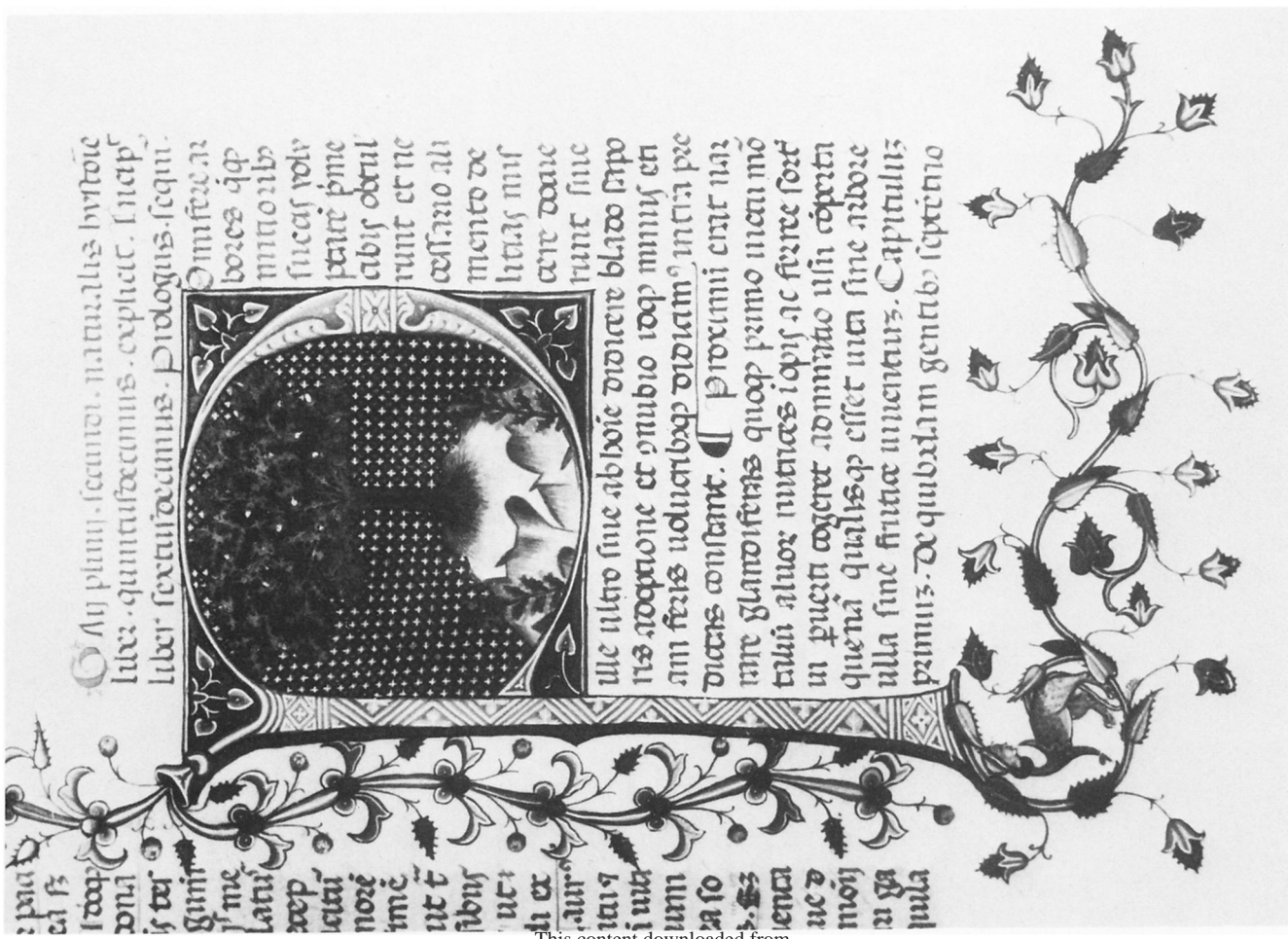
a—Pietro da Pavia, 1389, Tree.
Pliny, *HN*, Book xvi. Milan,
Biblioteca Ambrosiana, MS E.24
inf. [hereafter *HN* Milan], fol. 153^v
(p. 26)

b—Herbalist inspecting plant. *HN*
Milan, Book xxii, fol. 223^r (p. 26)

b



c—Circle of the Boucicaut Master, 1400–13, Trees
and vines. Pliny, *HN*, Book xxii. Turin, Biblioteca
Nazionale, MS I.I.25 [hereafter *HN* Turin],
fol. 68^v (p. 32)





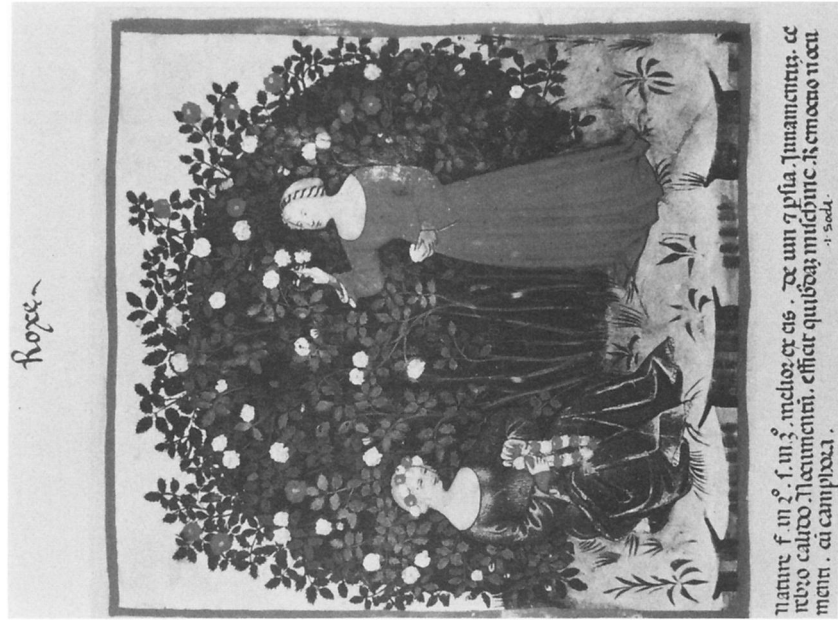
fi.—Herbalist and plants. *HN* Parma,
book xii, fol. 78^v (p. 36)



c—Flax and linen cloths. *HN* Parma,
Book XIX, fol. 121^v (*p.* 37)



b

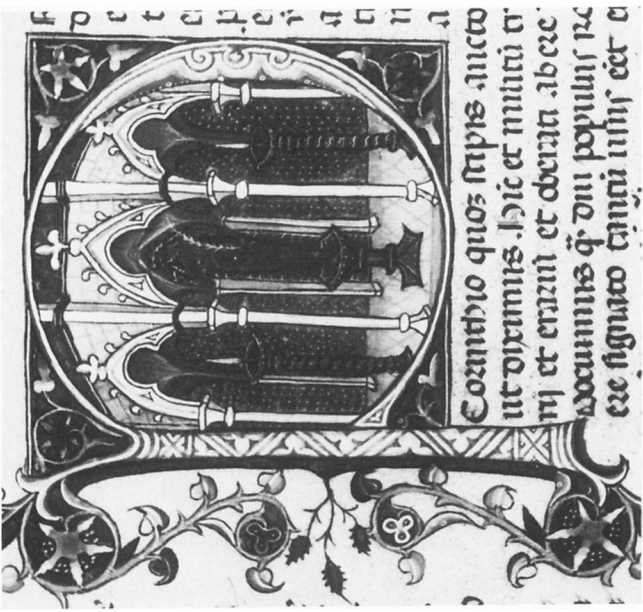


d—Lombard, c. 1390, Rose. *Theatrum sanitatis*. Rome, Biblioteca Casanatense, MS 4182, fol. lxix (p. 28)

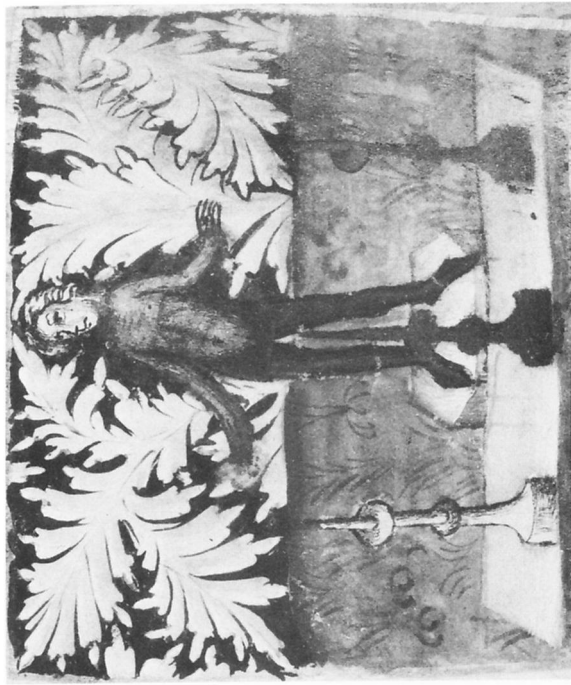
d



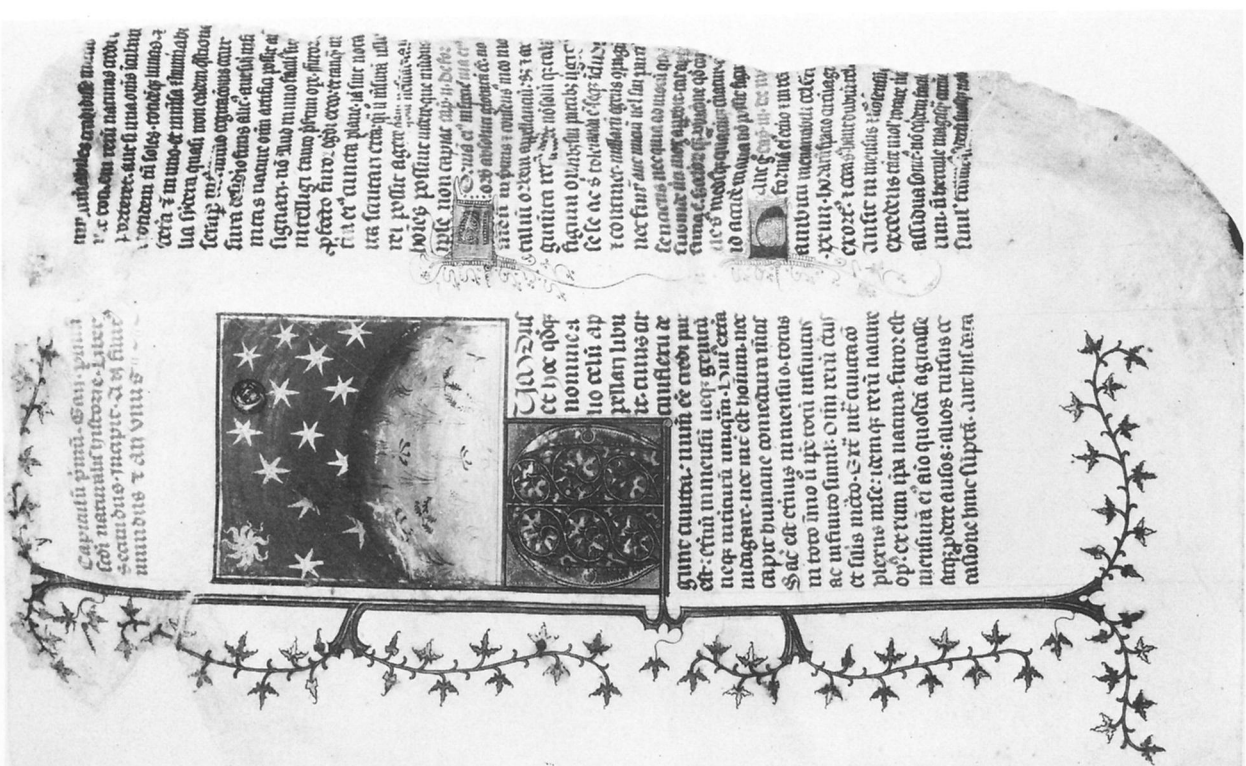
a—Glycera making a rose chaplet. HN Milan, Book XXI, fol. 214^r (p. 27)



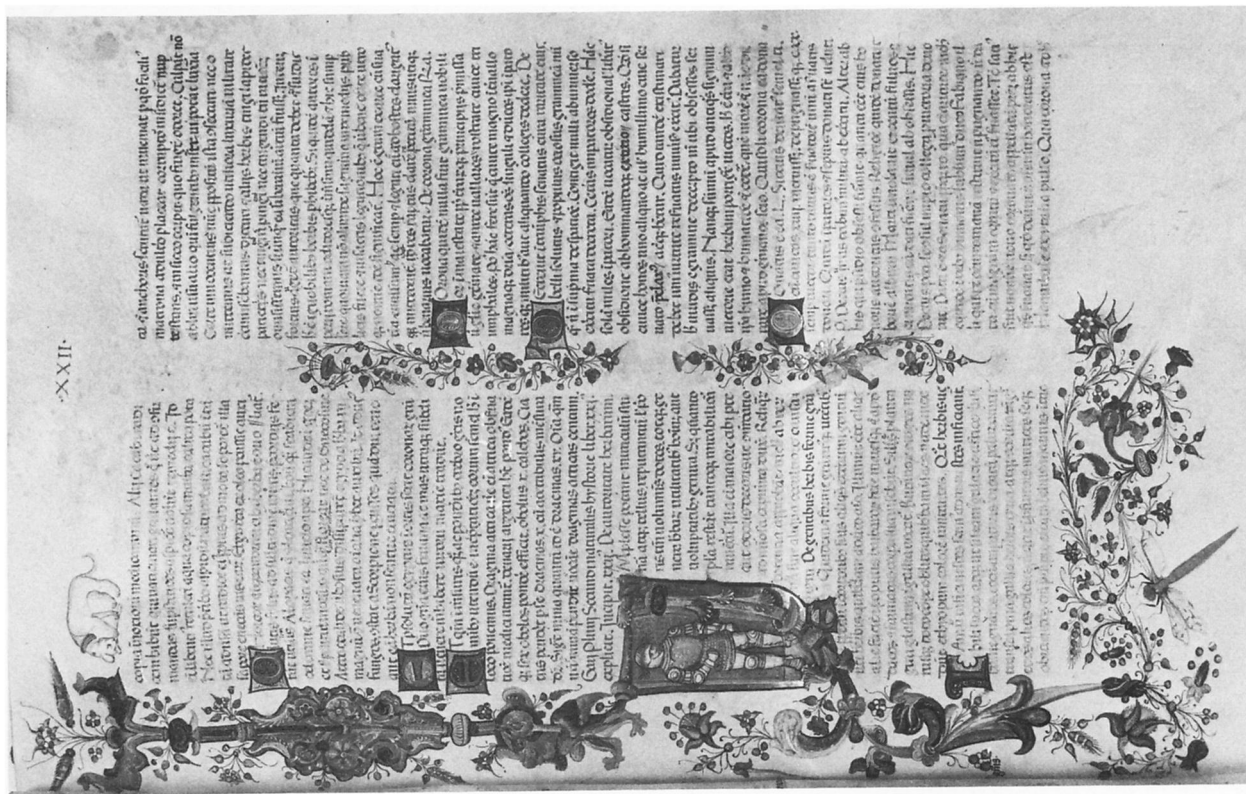
b—Statue and candelabra. HN Milan, Book XXXIV, fol. 323^v (p. 28)



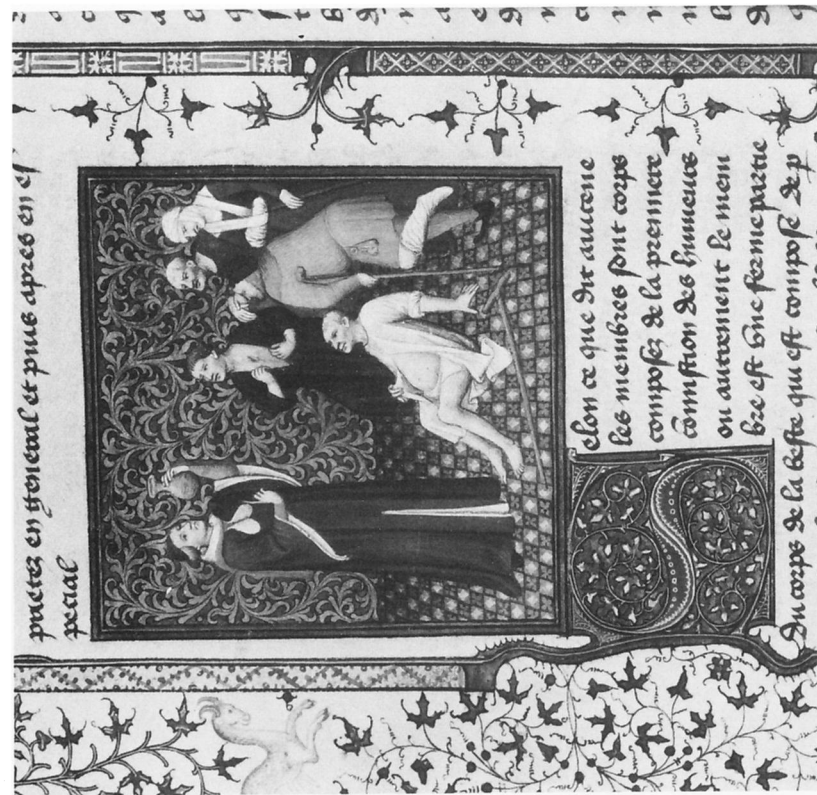
c—Statue and candelabra. HN Turin, Book XXXIV, fol. 183^v (p. 28)



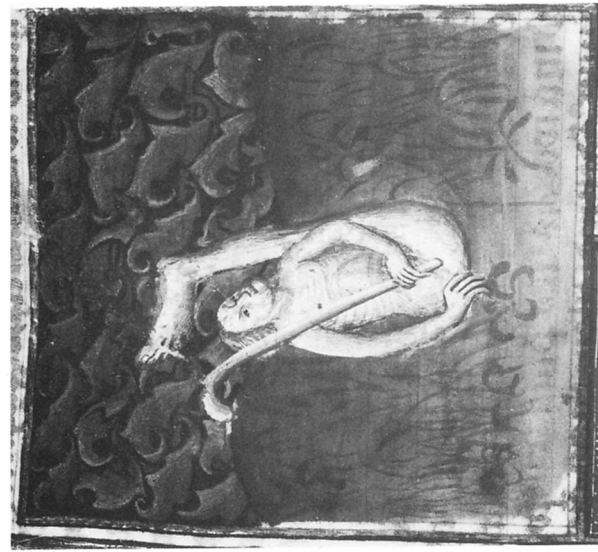
—Cosmos. HN Turin, Book II, fol. 20^v (p. 30)



b—Knight wearing a wreath of grass. HN Parma, Book XXII, fol. 141^r (p. 36)



a—Boucicaud Master,
c. 1415, Physician with a
urine flask. Bartolomeus
Anglicus, *Propriétés des choses*,
Book v. Cambridge,
Fitzwilliam Museum,
MS 251, fol. 54^v (p. 30)

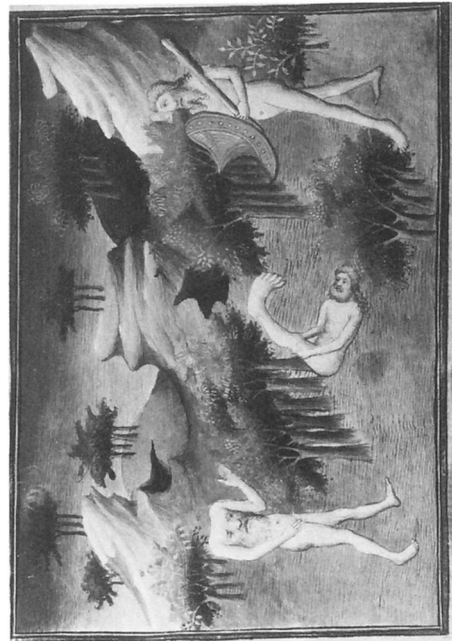


b—Sciapode. HN Turin, Book vii, fol. 86^r
(p. 30)



d—Physician with a urine flask and
lumps of wool. HN Turin, Book xxix,
fol. 139^v (p. 30)

c—Boucicaud Master, 1410–13,
Monstrous peoples. *Livre des merveilles*.
Paris, Bibliothèque Nationale, MS fr.
2810, fol. 29^v (p. 30)



d



a—Julius Caesar. *HN* Turin, Book VII, fol. 91^r
(*pp.* 30, 34)



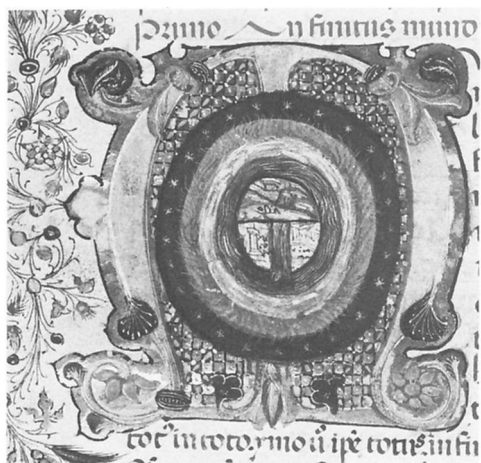
b—Luçon Master workshop, Darius in the stocks. Bocaccio, *Cas des nobles hommes et femmes*. Geneva, Bibliothèque publique et universitaire, MS fr. 190, I, fol. 139^r (*p.* 30)



c—Physician attending patient. *HN* Turin, Book XXVI, fol. 105^r (*p.* 32)



d—Magician. *HN* Turin, Book XXX, fol. 148^v (*p.* 32)



a—Cosmos. *HN* Parma, Book II, fol. 10^v (p. 38)



b—Painter. *HN* Parma, Book XXXV, fol. 210^r (p. 38)



c—Cristoforo Cortese, c. 1425, Cato Uticensis and senators. Cicero, *Paradoxa*. Burlington, University of Vermont Library (p. 36)



d—Magician. *HN* Parma, Book XXX, fol. 186^r



e—Landscape. *HN* Parma, Book III, fol. 20^r (p. 27)